

Medical Times

A Monthly Journal of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

55 YEARS OF FAITHFUL SERVICE TO THE MEDICAL PROFESSION

Vol. LIV, No. 3

New York, March, 1926

Twenty-Five Cents a Copy
Two Dollars a Year

| | |
|--|----|
| The Anemias | 51 |
| JOHN W. SHUMAN, M.D., Los Angeles, Cal. | |
| Pernicious Anemia | 52 |
| PHILIP E. AYER, M.D., Los Angeles, Cal. | |
| Nasality, a Common Condition After Tonsil and Adenoid Operations.... | 54 |
| JOHN J. LEVBARG, M.D., New York. | |
| The School Lunch..... | 55 |
| MATHER M. McCORD, M.D., Rome, Ga. | |
| Abdominal and Psychic Manifestations Combined | 56 |

| | |
|---|----|
| HENRY J. WOLF, M.D., New York. | |
| Proctitis and Proctocolitis..... | 58 |
| CHARLES J. DRUECK, M.D., Chicago, Ill. | |
| Complaints Against the Dispensary.. | 60 |
| CHARLES GOLDMAN, M.D., Brooklyn, N. Y. | |
| A Mild Case of Typhoid Fever with Perforation | 61 |
| MARK GORDON, M.D., Brooklyn, N. Y. | |
| The Spleen: A Pathological Study and Review | 62 |
| HERMAN L. FROSCH, M.D., New York. | |

| | |
|------------------------------------|----|
| THE PHYSICIAN'S LIBRARY. 65 | |
| DIAGNOSIS & TREATMENT.. | 66 |
| OBSTETRICS & GYNECOLOGY | 69 |
| EDITORIAL. | |
| Prenatal Care and the Crime Wave.. | 71 |
| A Clinic | 71 |
| Hard versus Soft Beverages..... | 71 |
| Piffle | 71 |
| Hospital Practice for All..... | 71 |
| MISCELLANY. | |
| Sane Counsel | 72 |
| CORRESPONDENCE | 74 |
| PUBLIC HEALTH | 75 |

Established 1872

Entered at the New York Post Office as Second Class Matter

MARINOL

Original Important Unique, a new preparation
Homogenized Cod Liver Oil

With the important complex of Mineral and Colloid Constituents of deep-sea water and sea plants, rich in Iodine.

MARINOL is cod liver oil in a surprisingly agreeable form, due to the high diffusibility of the homogenized oil.

FAIRCHILD BROS. & FOSTER
New York

Remineralization

of the System, following infection or shock, is one of the fundamental axioms of therapeutics.

Compound Syrup of Hypophosphites "FELLOWS"

contains chemical foods in the form of mineral salts and dynamic synergists in an assimilable and palatable compound, and has established its reputation as the *Standard Tonic* for over half a century.

Samples and literature on request

FELLOWS MEDICAL MANUFACTURING CO., Inc.

26 Christopher Street

New York City, U. S. A.

Agar of No Consequence in Emulsions of Liquid Petrolatum

1. The U. S. P. average dose of dried agar is $2\frac{1}{2}$ drachms.
2. Many gastro-enterologists prescribe from $\frac{2}{3}$ to 1 ounce of dried agar.
3. In a stable liquid emulsion containing as much as 50% of liquid petrolatum it is not possible to incorporate more than about 2% of dried agar.
4. The Council on Pharmacy and Chemistry of the American Medical Association analyzed leading emulsions on the market, but found none with over 1.5% of dried agar.
5. To get the equivalent of a U.S.P. normal dose of agar it would thus be necessary to take one pint of the emulsion at each dose.
6. The therapeutic value of emulsions, therefore, lies in their liquid petrolatum content and not in their agar content.
7. An emulsion containing about 50% of liquid petrolatum of correct viscosity has its place. A few patients are unable to take plain liquid petrolatum because of an aversion to any oily product.
8. Such patients will find the emulsion, Cream of Nujol, smooth, creamy, pleasantly flavored, and agreeable to take.
9. Unlike the other leading emulsions analyzed by the American Medical Association, Cream of Nujol contains no benzoate of soda or other artificial preservative.
10. Cream of Nujol may therefore be prescribed for use over extended periods with every assurance of safety.

STANDARD OIL CO. (NEW JERSEY)

26 BROADWAY, NEW YORK

Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. LIV, No. 3

NEW YORK, MARCH, 1926

Twenty-Five Cents a Copy
Two Dollars a Year

Board of Contributing Editors

| | | | |
|---|----------------------|--|---------------------|
| WM. G. ANDERSON, M.Sc., M.D., Dr.P.H.... | New Haven, Conn. | ROBERT T. MORRIS, A.M., M.D., F.A.C.S..... | New York |
| JOHN W. BOWLER, A.M., M.D..... | Hanover, N. H. | HENRY T. MORTON, M.D., F.A.C.S..... | Brooklyn, N. Y. |
| HENRY CLARK COE, M.D., F.A.C.S..... | New York | GEORGE THOMAS PALMER, M.D..... | Springfield, Ill. |
| EDWARD E. CORNWALL, M.D., F.A.C.P..... | Brooklyn, N. Y. | JOHN O. POLAK, M.Sc., M.D., F.A.C.S..... | Brooklyn, N. Y. |
| LIEUT. JOHN DUFF, Jr., Medical Corps..... | United States Navy | JOHN PUNTON, A.M., M.D..... | Kansas City, Mo. |
| KENNON DUNHAM, M.D..... | Cincinnati, O. | CHARLES S. ROCKHILL, M.D..... | Cincinnati, O. |
| W. L. ESTES, M.D..... | South Bethlehem, Pa. | DUNBAR ROY, M.D..... | Atlanta, Ga. |
| HAROLD HAYS, A.M., M.D., F.A.C.S..... | New York | ALBERT H. SHARPE, M.D..... | Ithaca, N. Y. |
| WALTER J. HIGHMAN, M.D..... | New York | JOHN W. SHUMAN, M.D., F.A.C.P..... | Los Angeles, Calif. |
| HOWARD LILIENTHAL, M.D., F.A.C.S..... | New York | JOHN P. SPRAGUE, M.D..... | Chicago, Ill. |
| EDWARD H. MARSH, M.D., Dr.P.H..... | Brooklyn, N. Y. | ALMUTH C. VANDIVER, B.S., LL.B..... | New York |
| REYNOLD WEBB WILCOX, M.D., | | LL.D., D.C.L..... | New York |

The Anemias*

JOHN W. SHUMAN, M.D., F.A.C.P.,
Los Angeles, Cal.

SENIOR ATTENDING PHYSICIAN, LOS ANGELES GENERAL HOSPITAL,

Our first patient No. 236-905 is a male, aged 59, and complains of general weakness and loss of seventeen pounds during the last three years. Has the diagnosis of pernicious (primary) anemia the past two years on account of, "No free Hcl, loss of K.J's, lemon-yellow color, and a color index of 1.25."

Since eighteen years of age he has had chronic suppurative (bilateral) otitis-media, which has drained less freely the last four years. Seven years ago his tongue was very sore, his teeth had been poor prior to that (pyorrhea alvaralis). Two years ago he was severely jaundiced. He had typhoid at thirty-four.

It is noteworthy that during the past year his red blood count never rose above 2,500,000 in spite of four blood transfusions. He has had no true remission, but rather a steady decline.

Physical examination at this time adds, "Enlarged non-obstructing prostate; a tender hard mass $2\frac{1}{2}$ " x 2" in right upper quadrant of belly—presumably gall bladder; the liver is enlarged. His urine contains albumen and casts.

Here we have a typical example of severe anemia which may well be secondary to long continued toxemia. And although the patient has consulted many doctors, none have attempted to eradicate known foci of infection (ears and teeth). At the present he needs a celiotomy and definite inside information (and surgical management if it can be accomplished) in reference to the pathology in the right upper abdomen.

I suggest to Dr. Coleman that when the patient has had thorough study—in reference to hepatic function, his gall-bladder and gastro-intestinal tract, etc.,—one of our surgical colleagues be called in consultation.

Patient No. 237-267—A female, aged 42, mother of two children, has the diagnosis of pernicious (primary) anemia, because she has "No free Hcl, cord changes and a color-index greater than 1". She has had remissions extending over a period of four years, and repeated blood transfusions which apparently assisted in establishing remissions. This is the third time she has been shown today; by the first physicians on account of cord symptoms—which are present in 70% of these cases; and by the second on account of amebic (histolytica) dysentery: Diarrhea is not uncommon in this type of anemia. Amebic infection may cause anemia.

This patient demonstrates a severe anemia, which has a possible cause in the "white bleeding" (diarrhea) which preceded her anemia and continues. When she has not the muco-colitis her anemia improves.

It is well to think of anemia as mild, moderate or severe; and always secondary, that is, having a cause. Sick individuals evidence the symptom, "anemia" in varying degrees. By anemia is meant pallor of skin and mucous membranes, and a lower than normal hemoglobin and red blood cell count.

Factors entering into the causation of anemia are:

1. Undernutrition—which may not only be due to lack of food-intake but improper assimilation of food.

2. Excess in demands upon the blood and its forming organs frequently seen after hemorrhage or diarrhea (as in the second case).

3. A long continued toxemia¹ (syphilis, cancer, parasites, metals, etc., etc.) causing a hemolysis which exhausts the hematopoietic system.

Too many diagnoses of a "primary" anemia go to burial unsolved. Too many of us believe "pernicious

*Ward-Walk Talk. December 9, 1925, during the yearly clinics of the Los Angeles County Medical Society.

¹Shuman, John W.; "Pernicious Anemia," Jour. Lab. Clin. Med., Aug. 1925.

anemia" has a picture all its own. Within the past fortnight two men on this ward died, showing typical blood pictures of "pernicious anemia." That was the clinical diagnosis. Autopsy diagnoses, however, were, in the first, "chronic diffuse nephritis," and in the second, "carcinoma of the stomach." These are not new revelations to us.

I recall four men who died from scirrhus carcinoma of the stomach who had identical pictures of so-called pernicious anemia. I can also recall a number of patients whose "partial" autopsies failed to find appreciable cause for their severe anemia and was not satisfied that "there was no pathological cause." Thorough going autopsies are quite as rare as thorough going physical examinations.

Treatment

We do not treat mild anemia lightly; and we do

not load up our patients with tonics. We try to clear up all acquired pathological defects found in a thorough, painstaking and sensible examination in a kindly business-like manner. It is senseless to give elixer I. Q. & S. to a man who is keeping a tapeworm; but once the nematode's head is removed, the iron tonic is most valuable in helping cure the anemia.

With a long continued severe anemia all treatment aimed at further stimulating the blood forming organs is more pernicious than the so-called disease, because it is adding insult to injury. Treatment, "to supply new blood by transfusions," in the chronic anemia is fictitious. Aside from eradicating the cause, or causes, our treatment should be to neutralize the toxins. If this can be done the blood forming organs will not become exhausted, and the sick one's blood "turn to water."

2007 Wilshire Boulevard.

*Pernicious Anemia

(Case Reports.)

PHILIP E. AYER, M. D.

Los Angeles, Cal.

For consideration, these two cases are presented in order that the subject may be studied from two angles:

First: a discussion of the "more reasonable theories" of its etiology; and

Second: Its early diagnosis.

CASE NO. 1

Record No. 45589; male, age 30, laborer: was admitted to the service of Dr. W. Stone, March 17, 1924, complaining of "weakness, indigestion, dyspnea." A review of his stay in the hospital at that time, briefly shows: *Past History:* Influenza, complicated by empyema, in 1919; gonorrhea in 1915; admitting illness began in 1923, with attacks of indigestion, nausea and vomiting not related to meals, coldness of fingers and toes, pallor, and dyspnea, all becoming progressively worse.

His physical findings: Skin, a peculiar yellow tint; tongue, smooth, shiny and edges raw; teeth, poor condition; reflexes, present but sluggish. The laboratory findings: Gastric analysis, absence of free HCL, occult blood positive; Blood; RBC. 1,600,000; Hemoglobin 35; WBC. 6,400; color index 1.1; Anisocytosis, poikilocytosis and stippling present. The red cells during his five weeks' stay in the hospital varied from one to two million, and Hemoglobin from thirty-five to seventy-five per cent. He was given sodium cacodylate, HCL, liquid pepsin, and Bland's pill.

He was re-admitted to our service March 16, 1925, with practically the same symptoms as above enumerated, only more marked. His teeth showed marked infection. The blood findings were: Red blood cells, 2,180,000; Hemoglobin, 55; Color index 1 plus; WBC. 5,800; Gastric analysis confirmed "no free HCL"; x-ray examinations of gastro-intestinal tract was, "negative."

Treatment: The four dead and abscessed teeth were extracted and he was given sodium cacodylate, HCL, liquid pepsin and Bland's pills. His blood picture steadily improved and he was discharged May 8, 1925. The RBC. 3,400,000; WBC. 7,600; Hemoglobin 85 per cent; Color Index 1.2.

CASE NO. 2

Mr. McG., Rec. No. 234-685, age 42; was admitted April 17, 1925; complaining of "dyspnea, weakness, nausea and vomiting. Lived in Guatemala thirteen years; tertian malaria off and on for 11 years; Yellow fever, in 1923; Gonorrhea in 1905."

In January of this year he became dyspneic and weak, with attacks of nausea and vomiting and was treated by his private physician for pernicious anemia and became steadily worse.

Physical examination: skin, light lemon color; mouth pyorrhea alveolaris; Abdomen; three tumors in anterior abdominal wall the size of a hazel nut, hard and moveable. Patient believes they appeared at site of injections given by private physician. Rectum: internal hemorrhoids and inflamed crypts and papillae; ankles, slight edema.

Laboratory findings: Blood, RBC. 700,000; Hemoglobin 10 per cent; Color Index, 7; WBC. 1,800 (80 small lymphocytes), Anisocytosis and poikilocytosis; Gastric analysis; absence of free HCL; Stool, negative; x-ray of gastro-intestinal tract, negative.

Treatment: transfusion of 500 cc. of whole blood April 17, 24, and May 20; Fowlers solution, Blands pills and dilute HCL, are being administered. April 12, the RBC. 1,800,000; Hemoglobin 25 per cent; color index 7; WBC. 4,500. May 25 the RBC. 2,300,000; Hemoglobin 65 per cent, color index 1.4; One of the tumors in abdominal wall removed for study. Biopsy report:—"Scar tissue." Died Oct. 4, 1925.

AUTOPSY

George McG., No. 234,685; white; male; age 42.

Clinical diagnosis: Pernicious anemia.

Body of a thoroughly well developed and nourished middle-aged male. Skin is rather pale and has a lemon-yellow tint to it. Rigor slight, liver moderate. There is a small scar about 2 cm. long, 3 cm. to the left of the umbilicus. Subcutaneous thoracic and abdominal fat averages one cm. in thickness, and is a deep yellow color. Muscles appear dark red.

Abdominal Cavity: No fluid or adhesions. Parietal surface of peritoneum smooth and glistening. Bladder contracted. Coils of small intestine slightly distended with gas. Large intestine and stomach also slightly distended. Kidneys normal position; spleen normal position; liver edge costal margin.

Pleural Cavities: No fluid or adhesions.

Pericardial Sac: Slightly enlarged, contains only a small amount of clear fluid.

Heart: Is large, flabby; contains no blood clots. The blood which exudes is pale, fluid and clots very slowly. Weight of heart 390 grams, Musculature is of a pale brownish color, and has typical tiger-lily appearance through the endocardium.

Lungs: Surface smooth and glistening, yellowish-gray in color, velvety and crepitant throughout. No masses. Cut surface is yellowish-brown throughout, with only an occasional dark pigmented area. No consolidation noted.

Pancreas: Negative.

Liver: Weight 3¾ pounds. Surface is smooth, uniformly pale yellowish-brown color—has a rather pasty appearance. Lobules do not show up very distinctly. On section, cut edge is slightly rounded. Pale fluid exudes from the surface on very slight pressure. Gall bladder only slightly distended with yellowish-brown bile. Mucous membrane is smooth, thin and bile-stained.

Spleen: Weight 375 grams; enlarged and firmer than normal. Normal shape, however. Color is a grayish-purple. On section it is pale, almost bloodless, and seems to have increased in fibrous tissue.

Kidneys: Combined weight, 420 grams. Capsule very adherent. Surface has a mottled grayish-yellow appearance and is very granular. On section the cortex has about the usual thickness,

and surface is very granular. The pyramids are apparently unaltered, and show up quite distinctly.

Prostate: Not enlarged.

Bladder: Contracted. Mucosa pale gray.

Intestines: Show no ulceration nor any signs of pathology.

ANATOMICAL SUMMARY:

1. Chronic diffuse nephritis. Blood very pale, fluid, clots slowly.

2. General anemia of viscera.

3. Fatty infiltration of the liver.

4. Pigmentation of liver, kidneys and heart muscle.

Cause of Death: Pernicious anemia.

Contributory: Chronic diffuse nephritis.

(1.) It is to be emphasized that in both these men rest in bed has attended their remissions.

(2.) The first man received the diagnosis of pernicious anemia, principally because his color index was greater than 1. Diagnosis of the second was questioned because his was less than 1.

(3.) The second man is receiving more studied attention on account of being a palpable secondary anemia.

Discussion

Since the time of Addison's¹ description, and endless amount of investigation has been carried on in an effort to discover its origin and today there are two schools:

1. Those who think it primarily a disease of the blood forming organs;

2. Those who believe it is produced by the action of a hemolytic agent on the blood; the bone marrow changes being caused by exhaustion in an effort to compensate for the blood destruction.

There are a great many theories as to the nature of the agent producing this anemia, some of them being:

"That it is the result of absorption of toxic amines";

"Infestation with protozoa"; and even

"Endocrine disturbances."

The blood picture can be produced in a number of ways. This has been done by Seyderhelm² by injecting extract of pernicious anemia stools; Banting³ has produced it by injecting Ricin; and it is well known that the blood picture may be associated with infestation by intestinal parasites. Both *rhinoccephalus* and hook worm, pregnancy, syphilis, cancer and other diseases.

The great majority of authorities, however, believe that it is produced by some toxin, as yet undiscovered. Many favor the view that it is the result of infection, and Shuman⁴ has, in a recent paper, pointed out, that the disease manifests a defense reaction of the body against toxemia, which, long continued, leads to exhaustion of the hematopoietic system and a reversion to the embryonic type of hematopoiesis. In favor of this view Cornet⁵ has produced a picture resembling it by injecting the toxins of the *Bacillus Welchii*. It has long been held that focal infection, especially oral sepsis may play an important part in the production of pernicious anemia. There is no doubt that focal infection causes a lowered resistance, with resulting blood disturbances, therefore it is good practice to eradicate these foci, both as a preventive measure and even after the disease is manifest, as we did for case 1. "Whether infection plays an active part or not, there must be other factors," Cornet⁶ points out, "for we do not see the specific tissue changes in pernicious anemia, which result from chronic infection, such as fibrosis, granulomata, and the formation of abscesses."

A great majority of the symptoms of pernicious anemia are referable to the gastro-intestinal tract: so many have stressed it in considering the etiology. Glossitis, achlorhydria, and proctitis are almost as common as the anemia itself, and Hurst⁷ believes achlorhydria to be a predisposing cause. He has collected twelve cases in which a subtotal gastrectomy has been followed by the symptoms and blood picture of pernicious anemia.

The question of hemorrhage as a cause is of striking importance. While anemia after hemorrhage is secondary, many cases of pernicious anemia give a history of long continued blood loss as from hemorrhoids, peptic ulcer, etc., and it may be that the long continued blood loss, and the strain thus put upon the blood forming organs, in an effort to compensate for the loss, may result in the anemia passing over into the pernicious type.

Etiologically, certain points may be emphasized as having an important bearing on possible prevention and treatment. The blood picture of secondary anemia of known etiology, may so closely simulate pernicious anemia, that it is not well to class them as incurable, but to make a thorough investigation with the idea of finding and eradicating conditions that may be a factor in its production. A search should be made for parasites, neoplasms, lues and focal infections. Every condition causing chronic blood loss should be corrected.

Early Diagnosis

Next to prevention, early diagnosis offers the greatest hope, for, while in our present knowledge pernicious anemia is practically invariably fatal, the cases which are recognized early and properly treated show longer and more complete remissions. Too little emphasis is placed on early diagnosis. The disease is usually recognized when quite far advanced, and the patient is unable, because of weakness, to attend to his regular duties. In considering the early diagnosis, it should be emphasized that it is a disease attacking several systems of the body and not an anemia alone.⁸ The gastro-intestinal, nervous, blood forming and destroying organs, especially being affected. The gastro-intestinal system is usually first affected, the blood forming and destroying organs second and the nervous system last, though sometimes the nervous system is first affected.

A positive diagnosis must depend upon the aid of the laboratory, but there are several early symptoms, which although not pathognomonic, should arouse suspicion and make it necessary to rule out pernicious anemia. The symptoms of gastro-intestinal disturbance, attacks of glossitis associated with achlorhydria are highly suggestive of early pernicious anemia.

Woltman⁹ states that, a tentative diagnosis can be made on the nervous system changes alone (when they occur); the quite constant findings being:

1. Disturbance of the vibratory sensibility.
2. Numbness and tingling in the extremities.
3. Alteration of the deep reflexes.
4. Multiple neuritis.

Disturbances of the hematopoietic system are found with the aid of the laboratory. Increased hemolysis may be present before anemia is manifest and is an early important sign. It is recognized by finding an increase of urobilinogen and urobilin in the duodenal contents, urine and stools.

An increase in size of the red cell (macrocytosis), is a characteristic finding in pernicious anemia; the plus color index, so characteristic itself, is dependent on this change; this increase in the size is not grossly apparent early, but may be inferred from a plus color index. The volume index determination, evolved by Capps¹⁰ and modified by Haden¹¹ may be used. This test is a measure of macrocytosis, and the term volume index is used to denote the volume of the average cell relative to normal. It shows the relation of the mass of cells to the number of cells, instead of the hemoglobin to the number of cells.

(Concluded on page 72)

Nasality, a Common Condition After Tonsil and Adenoid Operations

JOHN J. LEVBARG, M.D.,

New York.

Marked nasality frequently follows tonsil and adenoid operations. Diagnosis in such cases can be made readily; treatment, however, varies.

Proper speech depends upon the proper functioning of the soft palate, which is an incomplete partition between the mouth and the pharynx, consisting of mucous membrane, muscles, blood vessels, nerves and glands. The mucous membrane of the soft palate is continuous with the mucous membrane of the posterior nares, nasopharynx and hard palate. The nerve supply is supplied by the large posterior palatine coming out of the posterior palatine foramen and the accessory palatine nerves; some of its branches joining with the tonsillar plexus, which is formed by a branch of the glossopharyngeal nerve and plexus. It appears that in many nasality cases a small branch belonging to the tonsillar plexus is severed.

The cases which are discussed in this article indicate the diagnosis and the nature of treatment in cases of this character.

Josephine R., 21 years old, doing clerical work, was operated April last for caseous tonsils. One per cent novocain, 1/1000 adrenalin chloride was used. The adenoids were not removed. She stood operation very well; the bleeding was very slight. The following day the patient showed a marked speech defect—voice weak, colorless, flat and manifested a monotonous nasal quality. All sound escaped through the nose. She was under observation in the nose and throat clinic for five weeks without attaining any result. On May 26th, she was referred to the voice and speech clinic for diagnosis and treatment.

Upon examination, I found a well developed young lady with a smiling face and a pleasing disposition. She took her condition good naturedly, a positive asset for a quick recovery. The ears, teeth and nose were negative; mentally normal; tonsils enucleated, pillars intact; no adhesions present; speech and voice lacked natural resonance, and it seemed as if patient had a ball in her mouth, all sound escaping through the nose. When asked to phonate KAH, the soft palate remained stationary, with the exception of a slight movement of the tip of the uvula.

Shirley Z., 21 years old, clerk, referred from the nose and throat department to the voice and speech clinic June 16th. Patient was operated June 2nd, for diseased tonsils under local anesthesia, and immediately thereafter complained of her speech. On examination we found a well developed young woman, excessively nervous, with a speaking voice which was very difficult to understand. The voice almost dead in resonance, harsh, raucous, colorless and very monotonous. The mental state of this patient at times seemed irrational; she was apparently resigned to the hopelessness of her condition; her attitude was anxious and really pathetic; and it took over five weeks to restore her to normal condition.

This patient's speech manifested a marked nasality, and upon examination of throat showed tonsils were enucleated, uvula intact, but upon phonation soft palate moved but slightly, no adhesions of pillars present; when asked to pronounce K, G, H, Y, which are posterior lingual palatals, they moved very little.

In speaking and singing all consonants with the exception of N, M, NG, the soft palate inclines to rise so as to close more or less completely the nasopharynx from communicating with the throat. If the action of the soft palate for some reason does not do this, the speech has a distinct harsh, muffled, dull nasal character. There is a difference in nasal character and nasal twang; the latter condition occurs in colds or where there are obstructions in the nasal cavity; in other words when the column of air is cut off we do not obtain any nasal resonance; while in the former state almost all the air escapes through

the nose. Normal resonance of our voice is dependent on some of the vibrations of the air in the nasal cavity, therefore, the soft palate naturally does not completely close the nasopharynx.

Diagnosis as a rule in these cases can be easily made, but to find the actual cause for this frequent condition is another proposition. In J. R., it was thought it may be purely a hysterical state, but that was ruled out after due observation and careful examination, and a diagnosis of paresis of the soft palate probably due to cutting one of the branches of the tonsillar plexus.

F. R., Italian woman of 35 years—tonsil enucleated under local anesthesia. A week later she showed marked nasality. The diagnosis was paresis of the soft palate. After a few lessons she regained control of the palate and now speaks normally.

A. L., 15 years, High School girl—tonsils and adenoids removed under general anesthesia; three days later developed marked nasality. She improved immediately upon re-education of vowels and consonants.

In smaller children restoration to normal is more difficult and the success of the treatment will depend largely upon the skill and great patience of a physician.

The prognosis and treatment in this condition is favorable, but great patience and skill is required. Not only must the physician possess a knowledge of phonetics but he must learn the individual's nature and gain his confidence and co-operation. The success of treatment will depend largely upon the dexterity and patience of the specialist.

Gaining the confidence of the patient is emphatically necessary. Two cases in particular, treated several years ago gave me unnecessary trouble on account of the pessimism of the parents but as soon as they perceived a little improvement, they became enthusiastic in their praise. In both these cases the nasality was the result of a very large adenoid and the elimination of the obstruction in the nasopharynx produced a large cavity, which the children were unable to control at the beginning.

Many other cases of marked nasality following tonsil and adenoid operations are due to loss of control of the muscles of the soft palate and both pillars. True paralysis of the palate is seen at times, especially in children. They are unable to swallow food freely and some times liquid food comes out through the nose. It may be due to the stretching of the tissues, to trauma or to wounding of the muscle. These cases almost always recover in a few weeks.

Physicians vary greatly as to the amount of time and attention they devote to divers muscular drills of the soft palate and surrounding parts under consideration, and also to the importance attached to the position of these parts.

All the movements of the tongue, lips and jaw are directly under voluntary control. Therefore exercises may be given only for acquiring suppleness and agility of action. The muscular movements of the soft palate and surrounding tissues are readily brought under control. A few minutes daily practice continued for a month, is generally sufficient for the

(Concluded on page 72)

The School Lunch

MATHER M. McCORD, M. D.

Rome, Ga.

One of the most annoying things with which a mother has to contend is the preparation of the school lunch, yet there is nothing in the mother's daily routine of more importance to the child.

It is easy to throw a slice of ham, a hamburger, a slice of cheese or a cold egg between two slices of bread and tell the child to "scoot," but that is not best for the present and future good of the child. It should be remembered that the child is being sent to school to be trained to be physically fit as well as mentally alert.

A couple of decades ago there was hardly known such a thing as the one session a day school. It was the custom to have morning and afternoon sessions. In our town and city schools many of the students could return home for the mid-day meal. Those in the rural schools carried their dinner in tin buckets, and later on some of them, who were more fortunate, because possessed of a lunch basket.

The town and city schools have practically abandoned the two sessions a day, but the rural schools are still forced to hold to that old custom.

There also was a time when many of the country schools would continue their sessions during the summer months, inasmuch as they did not have the comforts in buildings and equipment for the cold days of winter. But today there are very few schools, open in summer even in the most remote rural communities.

We should therefore direct our efforts to the planning of lunches for the cold rather than the hot days. Many of the larger schools now give some attention to domestic science in their daily instruction, even though it is done by one of the regular teachers. Therefore while talking to the children about their diet why not demonstrate to them in a practical way what can be done?

For four years, 1915-19, I was medical inspector of all the public schools in my city and county. On my daily visits to the schools I had an unusual opportunity to observe many things which to my mind could be done to improve the general hygienic condition of the pupils. It would surprise the average parent to know the vast number of undernourished children found in the average school. Many times on a cold day I have noticed a small child standing against the school building to dodge the wind and sometimes "choking" down a dry sandwich. Perhaps it tasted good, for the child was cold and hungry. Perhaps he would escape the stomach-ache, but it was not certain in all cases that his digestive organs would escape injury. I dare say that many attacks of indigestion which show up in later life, got their start as the result of some such imposition on the stomach in early childhood.

In the cold days the child needs something warm to give him "pep" and to produce a healthy reaction. This will return him to his studies in better shape than when he closed his books for recess. The two most convenient foods to prepare are cocoa and soup. Most children would prefer cocoa but it would be well to have soup on one day of the week, and cocoa the other four days. Cocoa when made with good milk is very nourishing and refreshing and is very easy to prepare.

The one hindrance to the use of cocoa generally has been the inability to get and keep fresh milk. The schools are not provided with means to care for the milk and keep it fresh and safe for use. This hindrance is now being overcome by some of the schools in the use

of a product known as dried milk. "What is dried milk?" Nothing but the dry solids of fresh milk which have been removed by a drying process under heat without injuring the original elements of the milk. Liquid milk, which is largely water, is easy to spoil, but as dried milk contains no moisture in it there is nothing to spoil. After the dry solids are added to water in the proportion of one level tablespoonful of dried milk to one ounce of boiled water we have the freshest and safest milk that it is possible to buy. This dry milk can be converted to fresh liquid milk quicker than it is taking me to tell the story. It can then be used as any other fresh milk in making cocoa, or may be drunk fresh as milk by any child who does not like cocoa.

This milk has already been tested out by a few schools and the results have shown that it was more nutritious than fresh liquid milk. The taste is a little different from raw milk but children soon learn to like it and many prefer it to the raw milk. Dried milk may be bought in wholesale quantities from the producers and stored at the schools until needed and will keep absolutely fresh under ordinary conditions for several months.

A few pennies a day from each child should be enough to pay for the cost of the milk and cocoa, as well as the meats and vegetables for making the soup. A committee of girls for each day would take great delight in preparing the lunch. This would not only be of real benefit to the school but it would be teaching some practical lessons to the girls and would lift a great burden from the shoulders of mothers.

A number of manufacturing plants in the United States produce a high class dried milk, so it is no trouble to secure the necessary amount for any school on short notice.

As one who has visited many schools and examined thousands of school children I urged the school authorities to encourage the teachers to give this matter some thought and a fair trial and be convinced that such a step, may by the end of a school term, result in the marked improvement of many of the children who are now undernourished and also prevent others from becoming undernourished.

A child may live without milk but a test made with a large number of school children has demonstrated that the child who gets milk every day has a great advantage over the child which does not.

Pernicious Anemia

John W. Shuman of Los Angeles in a thoughtful study of this subject emphasizes that the treatment should be headed under Rest: The detection and removal of all focal infection; Hemotherapy; Arsenic, diet, fresh air and sunshine. Shuman says that Pernicious Anemia is caused by a long standing toxemia, usually due to bacteria, causing a high grade hemolysis, which exhausts the blood-forming system.—(*Jour. Lab. & Clin. Med.*, Aug., 1925.)

Infection of the Gall-Bladder in Relation to Pernicious Anemia

Jones and Joyce put forward evidence pointing to the presence of hemolyzing and other micro-organisms in the wall of the gall-bladder as being the possible cause of idiopathic progressive pernicious anemia.

In a series of 13 cases the presence of chronic gall-bladder disease was found by special study in each one.

Cholecystectomy on 5 patients of this series appears to have removed some or all of the symptoms of the disease.—(*Amer. Jour. of Med. Sc.*)

Abdominal and Psychic Manifestations Combined

A Prelude and Trilogy

HENRY J. WOLF, M.D.

New York.

Prelude

Where can one find a better opportunity to study man, physical and mental, the body and soul of internal medicine? The intelligent, self-contained of no matter what racial educational or financial status, displays a minimum of medical perplexities, amulatory and otherwise. The habitually pampered show an amount commensurate with his own or the shortcomings of home surroundings plus outside interference. If arrogant his efforts to get the ungetable may be well nigh unlimited. Time enough to worry when all is well, when if necessary, others including the physicians may come in for their share.

Gross palpable defects need not be manifest as in some of the vagotonic disorders of hidden origin. Obsessions, phobias, depressions, delusions, malingering and what not are frequently manifest in the visceroptotic, all within an elastic conception of psychic normality, ever pointing to physical pathology unconsciously simulated on to more or less concrete psychopathic conceptions.

Material remedies are occasionally an offset to our many deficiencies. It is just a knowledge of limitations which teaches the physician self-discipline, which he imparts to his home surroundings, and to others of healthy intelligence. Possessing it, one can go through life without a crutch, less prone to become the victim of psychic foreign bodies which we endeavor to enucleate in others, each to the manner born, no matter what the underlying pathology, the methods largely fashioned to the varying hour. A logical relationship between physician and patient is a prerequisite. If it exists more may be accomplished, despite acids, when alkalis are strictly indicated, than when all up to the minute laboratory tactics are resorted to in the maladjusted.

Many who accept this world as is, believe that the puerile grown up must be treated as such, indulged if necessary to the Nth degree, in this way accomplishing the best mutual results in the short run, letting the controversial future take care of itself. How fertile a soil for cumulative obsessions! Experience, however, teaches us to be less pessimistic as to our ability to instill self discipline, with a firm will to do so from the very start, regardless of immediate consequences to self, come what will.

Trenchant though the types following be, they awaken none the less recollections of much in a life time that bears at least qualitative resemblance.

Part 1—Tragicomedy

Six months after birth of her third child, a gynecologist of broad general experience, referred his 26 year old patient to me for the further care of stomach ulcer, post partum in origin with classic symptoms, including occasional blood vomiting. She appeared unusually bright, possessed much grace, and a keen sense of light hearted humor. She enjoyed being ever the center of all accruing medical perplexities.

During the early period of my observation, she expressed fear of pregnancy because of daily vomiting before breakfast, claiming in addition a second lapse of menstruation. It was agreed her gynecologist should interrupt pregnancy under the circumstances, but curet-

tage failed to reveal it. This together with the short character description, awakened in me the strong suspicion of her being a simular. Not that an ulcer subject loses a sense of humor. It might be very keen, but it is apt to be of a very different hue, not light hearted, rather plaintive, cryptic even caustic, characteristic already of those predisposed to ulcer. Further the ulcer subject is apt to suffer too much to be objectively interested in personal medical perplexities.

Her intelligent nurse posted to be ever on guard for the dramatic, detected her with a long sharp pointed instrument in her mouth. Then a number of unexplainable scars were found on her fauces leading to a conference with her gynecologist and a psycho-neurologist. Though impressed with what was related, the diagnosis ulcer was adhered to by the former and supported by the alienist, and so insistent was an eminent surgeon upon its correctness, that she was sent to the hospital for operation.

With everything in readiness she suddenly at the last moment deferred surgery until my return from a pending trip abroad, thus convincing me fully that she knew why.

At her home once more my associate had his share of perplexities until three weeks before my return, which were days of happiness and gratitude to him for her restoration. The ulcer question was moribund. My return was calculated to the second, for on entering my home the telephone was ringing requesting an early call, then a second ring urging immediate attention. My associate and I found her so deeply under elixir chloral-amid that the former was obliged to remain with her five hours before she could be awakened from her stupor. She had deliberately and at the greatest hazard tried to shock him for his complacency, and show him the error of his calculation.

From then on she came under my care exclusively. Once attention was called to the likelihood of a miscarriage, another presumable comedy. Her vulvar napkins were deeply blood soaked, but she was not pregnant and in reply to her query as to the source of blood, she was told it was of no consequence. We ascertained however that it came from the butchers.

Six weeks later, a physician residing in the same building, summoned me in dire emergency. She was lying on the floor, arms outstretched and had the appearance of death. But there was normal pulse, heart beat, respiration, pupils and all reflexes. On his arrival the alienist, a stranger, could not at first reconcile that tragic figure on the floor with my nonchalant attitude until the violent twitching of her eyelids, with every new prank described in plain English, spoke for itself.

Sufficiently victimized more or less, ulcer or not, the six months endurance contest had reached its climax. She was consigned to the sole discipline of the alienist as an ambulatory patient, both my associate and I retiring completely.

In the course of time the alienist reported a complete change in behavior and said she was under satisfactory control. For years her manifestations were those of the psychopath with marked paranoid traits, the same picture persisting to the present day after a quarter of a century, under only occasional observation.

Did she have an ulcer? Respite: 1. She simulated pregnancy; 2. She seemingly ceased simulating: strictly speaking she shrewdly simulated sanity; 3. She simulated suicide with a drug; 4. She simulated miscarriage; 5. She simulated suicide without a drug; 6. Suspicious scars on fauces, suggesting source of blood (vomited); 7. Persisting evidence of psychic degeneracy, markedly paranoid in character.

The above record is pre-roentgen in origin. It could be duplicated today with frequently negative or controversial pyloric, duodenal or cholecystic borderlands. It does demonstrate the significance of malingering as an arrow when mildly indulged in, as a danger when pronounced. It indicates the necessity of transferring such a patient to the care of one who begins his relations without delusions. It may otherwise be difficult in the event of real trouble to disassociate the past with the new. The patient would be apt to simulate being disgruntled after such a denouement, seek aid elsewhere, discontinue malingering and so save her face. In the other event it might, in unsimulated trouble, be difficult for her to resign herself to one whom she had so successfully deluded in the past.

Part 2—Martyr Dolorosa

The descendant of culture and psychopathia. After the birth of her only child, removal of sexual organs, later appendectomy, then right floating kidney anchored, finally removal of gall bladder strongly urged. From then on (1915), she was under my observation only for frequently recurring pyelitis and colitis mucosa.

It did not require long to determine that these afflictions served frequently as pretexts to unburden herself otherwise, for Marta was a martyr, proud of her origin, culture and early surroundings, but not receiving appropriate recognition from, and even persecuted by husband, son and the latter's wife; in reality this was a paranoid delusion. With the outside world, her relations, though very harmonious, were already on the wane. Artistic, her language was ever dramatically dolorous, though decidedly not a melancholiac.

My calls were purposely infrequent, assured that had there been as much distress as drama, aid would have been sought elsewhere, but her family understood my motivated paucity of attentions.

In 1920 her husband reported her condition and its echo upon himself, whereupon I visited the patient, dispassionately accusing her of habitual fabrication despite her abdominal maladies, assuring her that she might still have it within her power to avert disaster. "Oh," said she, "I presume this means an end of relations?" "That depends," I replied, "adieu!"

Then came a lapse of 3½ years without a word of the case, when the husband called in 1923 stating, to my utter amazement, that following my audacious visit, their home life had been normal, the summers of 1921 and 1922 were spent in Europe visiting her former home, but he not being able to travel in 1923, the whole dolorous tragedy was reenacted. Naturally I was not consulted. The choice fell upon a neuro-psychiatrist who advocated commitment, preferring though to get my impressions, past and present, the latter independently of him. She even pretended not to know me, assuming though "they were sending a new physician to whom I am obliged to relate all my bodily and mental woes ab initio."

It was indeed a tragic symphony with Martyrdom the theme suddenly interrupted on account of having inadvertently called me by name, without however displaying any facial embarrassment. It kept up until my colleague's arrival with a second alienist for discussion

of commitment. My previous diagnosis had been pathological malingering with unequivocal accent on the adjective. At the conference mention was made of suspicious attempts at suicide with veronal so that a day attendant had been installed. It was evident to me that at the time she could not live with the family. I willingly agreed to commitment.

Then followed a conference between the two alienists, husband and the only blood relative of the patient in this country, a woman of strong personality and determination, who refused consent, convinced of her cousin's sanity, ascribing all the upheavals to the husband and children. She urged instead that patient be allowed to go to her former home in Europe alone. How would such a compromise suit me with my knowledge of her past? A compromise was out of question. Either our attitude must be accepted, or we must all retire from the case completely, with which there was full accord.

On being summoned in the forenoon four days later, with deliberations still pending, I found the patient on her couch, a corpse. It was assumed she had occasionally pocketed after first appearing to swallow her nightly veronal. The last evening she requested her attendant not to call in the morning, a substitute having been engaged, a fabrication. Thus left to herself she presumably utilized her veronal savings and so staged her end.

Referring to my visit prior to her 3½ year remission, I do not wish to advocate audacity as a panacea, but when well motivated and dispassionate, it has its uses. In internal medicine too a bold incision is frequently indicated, but it must be made without an anesthetic. So many of this class are suffering from life long anaesthesia. In this instance good mental drainage may have been the consequence for 3½ years; then retention and recurrence, not an uncommon event in actual surgery for malignancy, but malingering too may have very grave aspects in the supposedly sane.

Physicians have frequently asked me whether after all the compromise would not have been the wiser course, the post hoc reasoning. Confronted with such a situation the problem is quite different. What happened proved the patient was in need of protection, even though the latter failed. She should not have been sent abroad without two attendants. Oblivious of the possibility of suicide, despite the latter, one could not be unmindful of rendering the patient a probable encumbrance with or without attendants, to her foreign hosts. Requiring observation her place was at home, not with her family, as that would have been mutually contraindicated, but in a sanitarium. Any other course would have been a gamble medically unwarranted in this malinger with paranoid delusions.

Part 3—A Requiem Mass

A patient of 51 who was operated immediately on arrival in this country in 1892 for pulmonary empyema acquired aboard ship. Since 1915 under my care for two attacks of bronchopneumonia with always negative sputum and v. Pirquet, a frequently long lasting, though not permanent, systolic apex murmur and chronic interstitial nephritis: furthermore attacks of pain without fever to the left of the gall bladder region below the liver. Duodenal ulcer could not be assumed; the manifestations were arrhythmic and not of sufficiently frequent recurrence. He was intelligent, self-contained, absolutely trustworthy in his statements, sought aid rarely and when he did, was easily controlled. Diagnosis of abdominal affection: chronic cholecystitis.

Toward the end of 1923 came a change in the picture. Pains recurred more frequently, were more intense,
(Concluded on page 73)

Proctitis and Proctocolitis

CHARLES J. DRUECK, M.D.,

Chicago

PROFESSOR OF RECTAL DISEASES, POST GRADUATE HOSPITAL AND MEDICAL SCHOOL,

Proctitis, rectitis or inflammation of the rectal mucosa is probably the most frequently encountered of all rectal affections, is of more common occurrence than generally supposed, and is also directly responsible for the production of many disturbances which in turn give rise to symptoms mistaken for distinct diseases. Failure to appreciate the importance of proctitis as a causative factor of many rectal complaints is responsible for the continuance of much suffering by proctologic patients apparently cured of some other rectal or extra pelvic lesion.

In the course of examination of a patient suffering with hemorrhoids, fissure, cryptitis or pruritis, and it is not unusual to observe that the symptoms are those of chronic proctitis aggravated and intensified by such tissue changes as the disease produces.

Proctitis may be produced by a variety of causes all of which tend toward progressive, inflammatory processes, acute, subacute or chronic in form.

Acute Proctitis

Acute catarrh of the pelvic bowel occurs in all conditions of life, children being affected as frequently as adults and like catarrhal inflammations of the respiratory mucosa it comes on suddenly, may usually be traced to a definite cause, and unless modified by physiologic or pathologic factors of the sigmoid or rectum, it will usually disappear when the exciting cause is removed.

The pathologic changes are usually limited to the mucosa, although the crypts of Lieberkuhn, the submucous tissues, the muscular layer and even the perirectal tissues may be involved. If appropriately treated permanent damage rarely results; but in neglected cases prolonged invalidism may occur.

Etiology

The anatomy and physiology of the rectum and sigmoid render these organs very susceptible to catarrhal changes, which are often not limited to the mucosa. The crypts in the mucous membrane are potential pockets for the lodgement of infectious material. The venous circulation being in the opposite direction of the fecal current is always sluggish. In the colon the fluids are absorbed from food debris. Here toxins pass into the lymphatics and enter the circulation. As the fecal mass hardens, it excoriates and sometimes actually tears the mucous membrane as it is being expelled. These chemical and mechanical irritations lessen the vitality of the tissues and thus prepare the field for bacterial infection of the mucous membrane the exact nature of which is not always easy to determine. Probably many different kinds of bacteria are capable under favorable conditions of causing proctitis. Owing to the large number of micro-organisms which are habitually present in the rectum even under normal conditions, the difficulty of ascertaining which is the specific cause in any individual case is manifest.

As the rectum, sigmoid and colon have the same structure and function, the same catarrhal disturbances affect all parts, and therefore the term "proc-

ocolitis" is the more accurate designation for this class of disturbances. However, it is often hard to explain just why the disease is so localized in a given case. So-called catarrhal inflammation of the intestinal mucous membrane (an inflammation that cannot be accounted for by the presence of any of the now known bacteria) is very common, especially in the cities where modern methods of living subject persons to over indulgence of highly seasoned and stimulating foods and the maintenance of high nervous tension, together with lack of outdoor exercise. Our individual powers of resistance vary so much that, although, some seem to maintain good health in spite of these adverse conditions, others become indisposed by the slightest exposure or indiscretion, even a change of drinking water will in certain individuals, light up a constipation of the colon or rectum.

The onset of these catarrhal changes sometimes is insidious and it may be impossible to define accurately the beginning pathological alteration, because of the difference of temperament and habits in individuals. The prominent symptoms of inflammation in any part of the colon are referred reflexly to the rectum, and it may be added that the inflammation is seldom confined to any one locality, it may begin either in the cecum or the rectum and spread the whole length of the colon.

There are many other inflammatory invasions of the rectal mucosa due to dysentery, gonorrhea, syphilis, erysipelas or diphtheria, but excepting dysentery, these specific forms of infection are secondary to similar infections elsewhere, and our consideration will here be limited to the discussion of catarrhal proctitis and sigmoiditis, acute and chronic.

Among the causes of proctitis, the following may be mentioned: Irritants directly attacking the mucous membrane such as worms, highly seasoned foods or hard substances in the fecal mass, fish bones and hulls of cereals. Fecal irritants are common causes both of the acute and the chronic type. Constipation and fecal impaction of the rectal pouch alternating with periods of liquid feces often induce a sudden inflammation of the sigmoid flexure and rectum, or the rectal disturbance may be an extension of colitis resulting from the passage of the irritating discharges from above. Seasonal changes of food or water, particularly during the summer, or sitting on a cold wet seat often are exciting causes. In all, of these conditions sudden and violent changes are important factors. Proctitis may result also from the use of strong purgatives, irritating suppositories, or as an extension of inflammation from hemorrhoids, prolapse of, or exzema about the anus, or from disease of the neighboring organs, such as the bladder, prostate gland, vagina or uterus. In a few instances, new growths within the rectum such as polypi, adenoma, villous growths and papilloma, also intussusception occasion periodic exacerbations or protract the chronic proctitis.

Recurrent attacks of what appears to be acute proctitis will usually be found to be an acute mani-

festation of chronic proctitis with definite tissue changes. Adults who suffer repeated or intermittent attacks of rheumatism or gout or who sit on cold leather carriage seats and also those who are peculiarly susceptible to sudden chilling of the skin will often suffer with attacks of acute catarrhal proctitis.

Symptoms

The onset is characterized by a chill and an elevation of temperature. There is a sensation of fullness, weight, heat and burning in the rectum, or in severe cases actual pain, which radiates to the sacrum, the other pelvic organs or down the thighs. Irritation of the trigonum vesicae causes frequent micturition, tenesmus and sometimes retention of the urine. The rectum feels full, the anal sphincters are contracted and there is a constant and ineffectual desire to empty the bowels. The feces, usually liquid, are forcibly ejected through the small orifice. This constant straining produces prolapse of the mucous membrane, especially in children. The patient always is more comfortable lying down than when up and about. During the first twenty-four hours, the discharge from the rectum is liquid fecal matter; later, the engorged mucous membrane bleeds and the discharges are tinged with blood and contain mucus. In very severe cases, the mucous membrane will ulcerate and pieces slough off, accompanied with considerable discharge of clear blood. From this time the discharges contain mucus and blood mixed with feces.

An early persistent symptom is, the constant rectal tenesmus. The patient has a frequent and urgent desire to go to stool, but each time voids only a few ounces of liquid material accompanied with much straining and pain. The anus is red and painful, the sphincter irritable and spastic, and the introduction of the examining finger or the speculum is sometimes so painful as to necessitate an anesthetic. In the early stages the parts feel dry, feverish and swollen to the touch; later after secretion has started, the surface is moist and slimy, but the walls are so swollen as to seem closely approximated. Specular examination at this stage reveals a bright red, dry, velvety and edematous mucous membrane.

Bright red blood vessels will be seen coursing the mucosa similar to that found in acute conjunctivitis and the whole rectal mucous membrane will have a bright red color.

If examination be made a few days later there will be found ulcerations perhaps but one or two small points or, there may be several, some of which may be quite deep and involve the whole thickness of the mucous membrane, even perforating the gut. When ulceration occurs above the peritoneal fold, it may cause peritonitis; when below that line an abscess may result. Chronic or recurring proctitis in this way may cause a stricture.

Treatment of Acute Proctitis

The treatment of acute proctitis varies considerably with the exciting cause, and therefore, a thorough examination must be made before instituting any treatment. The parts being irritated and inflamed, the examination is very painful, unless an anesthetic, general or local, is administered. In many instances where for various reasons chloroform should not be given at the time of the examination, the patient may be relieved of most, if not all of the pain by the application of a 2 percent solution of procaine. A general anesthetic has much in its favor, because, while

the patient is thus asleep, the sphincter may be thoroughly dilated, in that way relieving the tenesmus and greatly facilitating subsequent examination or treatment. At the same time, any local trouble or cause of the proctitis may be removed, thereby accomplishing two things at one sitting.

The first indication for treatment naturally is, to remove the cause. Impacted feces or foreign bodies must be removed carefully so as not to injure the mucous membrane. Oxyurides must be carefully searched for. The anal sphincters should be dilated to permit easy and free emptying of the rectum. Decomposed, irritating, infectious intestinal contents, should be removed by means of a large dose of castor oil or saline to produce a watery stool and a free flushing. After the bowel has been thoroughly emptied, it should be irrigated two or three times during the day with physiologic salt solution at 110 degrees (1 teaspoonful of salt to 2 quarts of water) or full strength boric acid solution.

For this irrigation the patient should be placed in the lateral prone position, with the hips elevated; the irrigator reservoir being held one and one-half or two feet above the body. The irrigator tip should have a large return flow to allow free exit of debris. The solution is allowed to run into the bowel at a slow rate.

As soon as the patient experiences a desire to expel the fluid the inflow is shut off. Sometimes this uncomfortable sensation comes on before a sufficient quantity of solution has been admitted and is due to the over distention of the bowel by either the normal accumulations or spasmodic contraction of the circular muscle fibers. If the flow is checked, a few minutes the excitement subsides and the solution already within the bowel rises to a higher level. Changing the position of the patient to another position and massaging the colon gently will assist the irrigating solution to pass on up.

Douching in this manner washes out a large amount of infectious material, such as secretions, fecal accumulations, and multitudes of microorganisms; it dissolves mucus and pus, flushing them out as shreds; also it contracts the vascular structure, thereby stimulating circulation, relieving the local congestion, and depleting the tissues.

Following the douching two drams of 25 percent solution of Fl. ext. hydrastis is injected into the rectum and the patient is instructed to retain it. If the patient is seen during the later stages when ulceration and sloughing of the mucosa has begun, I have had greater satisfaction by flushing with plain sterile water and then injecting two to four drams of 1:2000 silver nitrate solution (1 gr. to 4 ounces). If the pain and tenesmus are not relieved an injection of three ounces of starch water to which has been added ten drops of tr. opii gives prompt relief and may be repeated as found necessary. Enemas cannot be substituted for the irrigation as they increase the tenesmus.

Opium suppositories are not satisfactory for this purpose. Their presence causes irritation and increases the inclination to strain.

When the patient has been put to bed following the irrigation much relief is obtained by applying a hot water bag to the perineum.

If the symptoms continue after the third day under this treatment, it will be found there are ulcers

(Concluded on page 73)

Complaints Against the Dispensary

CHARLES GOLDMAN, M. D.

Brooklyn, N. Y.

Among physicians there is a belief that widespread abuse of the dispensaries exists. This abuse is thought to consist, primarily, in the use of the dispensary by people able to pay for the services of a doctor. In order to do away with this abuse a state law, licensing dispensaries in New York State and placing them under the general supervision of the State Board of Charities, was promulgated in 1899.

The dispensary license law has, as one of its stated objects, the prevention of dispensary abuse. This law, if enforced, would go a long way in abolishing the abuse by patients who are not entitled to the use of the dispensary.

The section of the law printed on most dispensary cards, and displayed in all dispensaries, is as follows:

Penalty for False Representations.

(Section 296, chapter 55, Consolidated Laws.)

Any person who obtains medical or surgical treatment on false representations from any Dispensary licensed under the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

(Imprisonment until the fine be paid may be imposed. Code Crim. Pro. sec. 718.)

In eighteen years there is no record of a violation having been prosecuted. This may be because of the difficulty in determining the ability of the patients to pay. This is evident when we attempt to devise standards. What established rule can be considered as a model? Can an applicant be judged until his reason for coming is known?

Before the law went into effect the New York Charity Society examined, for the German Dispensary, the ability of patients to pay for treatment. The result of the inquiry, as published in the ninth annual report of the Department of Charities, gives 43 per cent. as able to pay, 27 per cent. unable to pay, and 30 per cent. not found at the addresses given. The time this investigation was made was a moving month among this class of people. A great number of dispensary patients are boarders who move frequently. Suspicious of the investigators, these people may have denied their identity. A certain number give a wrong address with intent to deceive.

Some time after the law was in effect the Medical Society of the County of New York investigated one thousand cases chosen at random from thirteen large dispensaries, with the following result: 25 per cent. of the cases were found to be non-residents of New York County; of the remaining 75 per cent., 90 per cent. appeared worthy of the free treatment secured, and 10 per cent. appeared able to pay under ordinary circumstances.

In demanding that certain requirements be met, the State Board of Charities has raised the standard of dispensaries. No dispensary may be opened unless there be need for it, and after being opened it must be properly maintained. A suitable building is required, thus doing away with the drug store dispensary; a licensed pharmacist must be in attendance; and a female attendant must be present at all gynecologic examinations. These requirements are all reasonable.

Dispensary patients may be divided into several groups: (a) The really poor patient who attends a clinic because he is unable to pay. The dispensary is essential for this type of patient. (b) The patient unable to

work on account of illness, and unable to pay while out of work. These are the border-line cases. (c) The patient who comes for special treatment and unable to pay the specialist. (d) The patient, able to pay a private physician, who believes he gets better treatment at the dispensary. (e) The patient dissatisfied with the treatment given by his own physician. (f) The patient able to pay, who goes to the dispensary because he gets treatment for nothing. Those coming under (d), (e), and (f) have no right to the use of the dispensary. The number of patients in each of these classes, and the amount of abuse for which each is responsible, is a matter of opinion.

There are a large number of doctors who believe they are injured in some way by the dispensary. Some believe the harm is done mostly by the dispensary doctors, others by the dispensary patients. The chief complaint against the dispensary physician is the custom of printing the name and address of the physician on the dispensary card. This procedure is carried out for several reasons: one is silent solicitation from the dispensary, of patients supposed to be unable to pay a physician; the others are used to conceal this reason.

Although considered ethical, this custom should be abolished. If a patient is able to pay for medical services, admission to the dispensary should be refused. The chief complaint against the patient is the use of the dispensary by people who can afford to pay for the services of a private physician. Free treatment to those able to pay does harm to the physician in a financial way, to the patient securing such treatment in a moral way, and to the deserving poor in using the time and the money which should be devoted to them.

That a physician is within his rights in placing his name on the dispensary card is maintained by many physicians. A patient at one time unable to pay for medical treatment may at some future time become able to employ a private physician. The claim is made that the physician who conscientiously spends from one to three hours a day at the dispensary, undoubtedly deserves the preference in these cases.

The great majority of dispensary patients are unable to pay for treatment, and it is for these that such institutions are founded. That there are patients able to pay, who are using the dispensary, every physician will admit. But, while admitting this to be true, it is contended that these patients would fail to pay if treated by a private practitioner, and, by going to the dispensary, do no harm to the physician financially.

The patients frequenting the dispensary require, in addition to medical treatment, a certain amount of home supervision and financial help, which it is impossible to give in private practice. An anemic child, under-nourished or wrongly nourished, cannot be cured by medicine. Answers made to questions asked by the physician may be half truths due to ignorance or distrust; the advice given might not be understood, or the patient too ignorant to carry it out; return visits may not be made; and owing to any of these causes, the result of treatment may not be satisfactory. The supervision necessary is possible only with the assistance of a nursing staff to follow up the treatment in the homes.

(Concluded on page 74)

A Mild Case of Typhoid Fever With Intestinal Perforation*

MARK GORDON, M. D.
Brooklyn, N. Y.

Patient W. W., 24 years of age, clerk, admitted to hospital on June 14, 1924, complaining of weakness, headache and cough. Temperature 102.5 pulse 96, respiration 28. Family history negative. Personal history; measles in early childhood, occasional grippe, otherwise negative. Present illness began when patient was in Monticello on his vacation. He came to the city in June and went to bed suffering with headache, chilliness, prostration, anorexia, vomiting and constipation. His condition continued unchanged until June 13, when a positive Widal was obtained and a diagnosis of typhoid was made. He was sent to the hospital on June 14. On admission patient was cheerful, and did not look acutely ill.

Physical examination showed a rather poorly nourished young man. The skin showed no abnormalities except a few rose spots. The mucous membranes were injected, tongue coated, teeth in fair condition, throat injected, no palpable glands. Lungs clear on percussion, on auscultation there were evident loud rales all over the chest showing the presence of bronchitis. Heart negative, abdomen relaxed, no abnormalities except enlargement of the spleen, felt on deep inspiration. Extremities revealed nothing unusual. Reflexes normal. Blood pressure 110/70 Hemoglobin 70. Urine spec. grav. 1020 with traces of albumin, otherwise negative.

The blood showed 4,700,000 reds and 7,350 whites. Differential presented 50 neutrophils, 4 large lymphocytes and 46 small lymphocytes. Widal positive, feces positive. Wasserman and blood chemistry negative.

The disease ran a mild course. The temperature ranging between 103 deg. to 102 deg. mornings and 102 deg. to 100 deg. evenings. The curve was characteristic of typhoid temperature. The pulse was never above 90 most of the time 76-84 and of very good quality. Respirations were 22. Patient was kept on a diet of 2000-2500 calories. He assimilated the food well. There was no gastric disturbance, nor abdominal distention at any time. The case looked very favorable with good prospects for an uneventful recovery.

The condition continued unchanged until the evening of June 25, which was close to the end of the third week of the disease. Suddenly the patient began to complain of a slight pain in the lower abdomen. Examination at that time revealed nothing definite. There was no distention and no tenderness on pressure. The abdomen was absolutely flacid. There was no vomiting, no change in the temperature, pulse or respiration. However, as a precautionary measure, feeding was discontinued and an ice-cap applied to the abdomen and opium administered.

On the morning of June 26, there was a rise in temperature and acceleration of the pulse with evidence of peritonitis, characterized by rigidity and tenderness over the lower abdomen. There was a slight, blood tinged bowel movement. Liver dullness was not obliterated. A diagnosis of intestinal perforation was made. The surgeon who was called in immediately confirmed the diagnosis and advised operation, which was performed that evening. (The delay of some hours was due to the patient's desire that his mother be present, as she was in the country, the operation was delayed pending her arrival.)

The surgeon's report is as follows; A pin point perforation one foot from the ileocecal valve with intestinal contents escaping. Intestines adherent to pelvic floor involving some loops, resulting in intestinal abstraction as evidenced by distention of proximal bowel. Large quantity of seropurulent fluid present in abdominal cavity.

Patient rallied after the operation. There was an improvement in pulse and he was cheerful. A few hours later, however, he complained of a sudden severe pain in the abdomen, pulse became rapid and of poor quality, temperature rose higher and he died on the morning of June 28.

Post mortem examination disclosed free blood in abdomen and two new perforations within a short distance of the old; the result of intestinal ulceration.

Examining the literature on the subject, one is led to conclude that intestinal perforation is the most fatal complication in typhoid. Fortunately it is very rare. In combined statistics of 13,800 cases of Murchison, Klebermeister, Schultz, Curschman and the John Hopkins Hospital it occurred in two per cent. It is emphasized by most writers that it occurs most frequently in cases that run a stormy course.

In Fitz's Series of 193 perforations, half of the cases occurred in the third and fourth weeks, 105 in the second week; fourteen per cent in the fifth week and thirteen and four tenths in the sixth week. Perforations are very rare in the sixth week.

Klippel and Feil report a severe case of typhoid in which symptoms of perforation developed, characterized by severe abdominal pain, sudden drop in temperature and small rapid pulse. There was no vomiting and little abdominal distention. The symptoms improved under treatment but the patient died from cardiac failure. Autopsy revealed a small perforation in the lower ileum.

Behrend reports in the *Therapeutic Gazette*, June, 15, 1923, three cases of typhoid with perforations but in which the symptoms were not typical. The diagnosis was based chiefly on presence of pain and rigidity. All cases were operated upon, ulcers were found and all recovered.

Sandelim discussing the frequency of intestinal perforation maintains that if the slightest abdominal tenderness appears, the patient should be immediately placed under the surgeon's observation. The prognosis under such conditions is favorable in sixty per cent. of cases.

R. M. Wiley in the *Virginia Medical Monthly*, February 1923 reports an intestinal perforation in a case that ran a very mild course with fatal result, due to delay.

Statistics clearly prove that the prospect of recovery from perforation treated by operation steadily diminished with each hour of delay. Osler emphasized this very strongly in his *Modern Medicine*. Consequently the important thing is to recognize the condition promptly and to act without loss of time.

This case is interesting, first, because of its unusually mild and favorable course; second, because the outcome might have been different had there not been an unavoidable delay of some hours before operation; third, the fact that other perforations took place shortly after the laparotomy.

249 New York Avenue.

* Read before the East New York Medical Society, May 24, 1925.

The Spleen: A Pathological Study and Review**

HERMAN L. FROSCH, B.S., M.D.,

THE A. J. RONGY FELLOW IN RESEARCH, LEBANON HOSPITAL.

New York.

The spleen is one of the most neglected organs in the body, and few men know much about it. My purpose is to attempt to clarify some of the data concerning it, from the pathological standpoint. It seems to me that the clinician neglects pathology too much, and it is rather tiresome to hear "What is your diagnosis?" For when that is made, the mind stops working and the physician thinks that he has uttered the magic words "open sesame," and the entire vista of medical science opens for him. A more scientific attitude would be to ask, "What is the underlying pathology?" So when we talk of individual spleens, we shall, instead of making a diagnosis, describe the appearance of it under the microscope, and from that study, try to analyze and attempt to arrive at a possible conclusion.

The spleen is one of the very few places in the body where the blood circulates in immediate contact with the tissue where ordinarily capillaries are present. It has a capsule which sends its main branches of connective tissue so as to divide the organ into parts. This in turn sends off connective tissue strands to make up the reticulum in which lie the so-called pulp cells. These are endothelial cells either round or irregular, at the periphery depending on the number of cells in the vicinity and pressure exerted. They have a small eccentric nucleus and occasionally one or more nucleoli. At times we find polynuclear leucocytes of different varieties and mast cells; but these normally are very few in number.

The blood is supplied by the splenic artery which divides and subdivides until we come to the small branches where each arteriole is surrounded by a more or less wide area of lymphocytic cells. These are the so-called malpighian bodies. The very small arteries instead of terminating in capillaries, empty their contents into widened spaces between the pulp tissue which are lined by cells resembling those of the pulp. These are the sinuses. As one studies the microscopic section carefully, one gets the impression that the spleen is just a mass of pulp tissue which the arterial blood pressure separates here and there where least resistance is offered to make a channel for the blood to pass through to the splenic vein.

When we look at a section of the spleen under the microscope we see here and there a small artery surrounded by an area of lymphocytic cells, empty spaces normally very small in size from which the blood has been washed out in the staining process, and the pulp cells lying in the reticulum separating the sinuses. Scattered throughout the section we may see masses of connective tissue varying in size. They are the processes from the capsule. For pathological changes we have to watch the sinuses, the malpighian bodies and the pulp cells.

This paper is the result of a study of sections from forty different spleens of all varieties, among which are included ten spleens from rabbits in which we attempted to produce a septicemia. Some of these rabbits were treated. We also studied the spleens from an ox, a dog, and the cells coming from the spleen of a calf.

This organ under different stresses and strains will undergo the same pathological changes as any other organ in the body, modified only by its particular histology.

In anemia the spleen is wrinkled and small, the sinuses almost collapsed, the pulp cells few in number, while the reticulum stands out rather prominently.

Passive hyperemia due to a cardiac lesion or obstructive portal circulation gives a large spleen, a tense capsule with a dark red pulp. The sinuses are dilated, compressing trabeculae and pulp tissue, with some red cells among the pulp cells. If the inflammation has existed for some time the reticular framework becomes somewhat prominent and we have now a chronic interstitial splentitis.

Active hyperemia, due to the various acute inflammatory diseases, gives an enlarged spleen, a tense capsule, and a dark red soft pulp. The cavernous sinuses are distended with blood, while the interstices of the pulp are infiltrated with a variable quantity of red and white blood cells. If the inflammation has lasted for some time, there is an increase in the pulp and malpighian cells, sometimes one, or the other, or both. Some of the cells are larger than the usual ones found in the pulp and a few may show mitotic figures. The cells lining the sinuses are usually swollen, larger, and increased in number, possibly filling up part of the sinus. Some of them contain red blood cells or their fragments. Small foci of infection may be found scattered through the spleen giving areas of necrosis here and there. These in septicemia are usually caused by small infected emboli lodging in that locality and form an abscess. These inflammatory conditions may also eventually, if a cure occurs, lead to a proliferation of the reticulum and give a chronic splentitis. In frequent attacks of malaria for example, we get an increase in reticulum, a greater number of pulp cells and a proliferation of the cells lining the cavernous sinuses. In other spleens the most prominent feature is the increase in connective tissue and diminution in size of the cavernous sinuses. The capsule and trabeculae are thickened.

I will give the history and splenic findings in two rabbits:

Rabbit 7, male, about 7½ pounds, received on December 12, 1924, a ½ cc. of a staphylococcus aureus emulsion intravenously. The following day a blood culture was taken which proved to be positive. On the same day he received an intravenous treatment with a special solution which we are at present experimenting with. He received six similar treatments. Four days after injection he developed an osteomyelitis of the left posterior extremity and multiple abscesses of both ear lobes. One week after injection he was very ill while the bones of both posterior extremities became infected. He died two weeks later.

Autopsy revealed a congestion of all the organs, with a very occasional abscess in some of them. The heart was apparently normal. There were two areas of bronchopneumonia in the right lung and an osteomyelitis of both posterior extremities.

The spleen was enlarged and congested. Microscopically we found numerous large round or polyhedral cells, both in the pulp tissue and in the sinuses. The nuclei of these cells were oval or kidney shaped with some of them undergoing mitosis.

* Work done at Lebanon Hospital Laboratories.

** Read before the Section on Internal Medicine of the Bronx County Medical Society.

Rabbit 8, male, about $7\frac{1}{2}$ pounds received on December 12, 1924, a $\frac{1}{2}$ cc. of the same emulsion intravenously. The following day a blood culture was taken which proved to be positive. He received no treatment. This rabbit had three very stormy days and he died in the afternoon of the fourth day after injection.

Autopsy revealed a very marked congestion of all the organs and multiple abscesses of the abdominal wall and all the viscera except the spleen, which was markedly congested. There was a pleuritis and a large abscess at the base of the right lung. The heart muscle was riddled with abscesses. Both kidney pelvises were filled with pus, cultures from which gave a staphylococcus aureus growth.

The spleen was markedly congested, the sinuses dilated and pulp tissue cells somewhat increased in number, both containing red and white blood cells. But there were very few of the large cells which we found in the spleen of Rabbit 7.

Up to now I have given a summary description of every variety of pathological spleen.

A tuberculous spleen, for instance, is after all a result of a temporary septicemia or in miliary tuberculosis a prolonged septicemia. The tubercles may be very numerous, varying in size from a small pin head to that of a walnut, or as in one case I saw in which the spleen was one mass of caseous material. Microscopically we see either single or conglomerated tubercles which are a collection of small spheroidal cells or larger polyhedral cells and occasionally a giant cell. The reticulum is well defined.

Cheesy degeneration takes place as in any other organ. Tubercle bacilli are usually found especially in the acute forms. The tubercles may form in any one of the structures of the spleen. The parenchyma is usually hyperemic and hyperplastic. Giant cells begin to appear when repair commences to take place. Some of the caseous areas may become cystic by absorption of the contents. Eventually if healing takes place the entire pulp may be replaced by fibroid tissue with disappearance of the malpighian bodies.

Hodgkins disease manifests itself first by a moderate hyperplasia of the normal cells making up the pulp of the spleen with here and there an area containing a number of large cells of a faintly staining cell body and a single large nucleus sometimes showing mitotic figures. These cells look very much like the ones we found in the spleen of Rabbit No. 7. Later on necrotic areas appear surrounded by epithelioid type cells and more or less numerous large cells with polymorphic nuclei or with two or more small oval nuclei lying in the center of the cell body. There occurs also a beginning replacement hyperplasia of fibrous tissue of the reticulum. In the last stage the spleen is composed largely of dense anastomosing bands of fibrous tissue, part of which may have undergone hyaline degeneration.

In lymphatic leukemia the pulp of the spleen is largely replaced by lymphocytes, either large or small, the large usually predominating. We may also find these lymphocytes lying in the sinuses.

The spleen in pernicious anaemia may be normal in size but is usually slightly larger. Microscopically the malpighian bodies are normal. There is no increase in interstitial tissue, but large numbers of nucleated red blood cells may be found, and some phagocytosis of red blood cell debris may be seen in the large phagocytic cells. Usually, however, the pulp tissue and sinuses are filled with red blood cells at different stages of destruction.

One of the very large spleens found is the so-called gaucher splenomegaly, weighing as much as 7400 grams. Microscopically we find large round or irregular shaped

alveolar spaces representing greatly dilated sinuses, containing cells free or attached to the endothelial lining. These cells are also found in the pulp tissue and between the connective tissue fibers of the trabeculae. They are large or oval, if compressed they are fused in long strands or syncytial masses. Theoretically, they are supposed to be derived from a multiplication of the cells lining the sinuses. Their nuclei are irregular and small compared with cytoplasm. Many of the cells show two or three nuclei, some of which showing mitotic changes, others nucleoli. Many of the cell bodies present a finely granular appearance, some are lightly streaked, while others show one or more round, oval, or irregular areas, which are distinctly lighter and clearer than the remainder of the cell body. Similar cells are found in the connective tissue meshes of the liver, in the sinuses of the lymph nodes and bone marrow.

With this brief study of the histology and of some pathological spleens we now come to the question, "What function or functions has this organ?" This was asked a student by his professor. His answer was that he had forgotten. The professor turned solemnly to the class and said, "Gentlemen, a terrible thing has happened. The only man who ever knew the functions of the spleen has forgotten them." That is exactly the situation we are in. Many theoretical properties are attributed to it, but none of them have been proven definitely, except that of blood destruction, and even this one is disputed by some authorities.

Every cell in the body has the power of phagocytosis under extraordinary conditions. But this property belongs also physiologically and pathologically to one particular type of cell scattered throughout the body which Aschoff in 1913 named the reticulo-endothelial system. Now when we speak of this system we must not get the impression that the different parts are identical or entirely equivalent. They have only one common factor and that is that they are similar in function. The system is not rigid. It undergoes continual wear and tear and regeneration as any other cells in the body. These cells are found in the liver as the Kupffer cells, in the cortical portion and sinuses of the lymph nodes, in the capillaries of the bone marrow; but the spleen is their main depot in the mammal. They are really a special type of connective tissue, a sort of more or less sessile connective tissue generically related to the mesenchyme. Under different stresses and strains they are converted into macrophages. According to Metchnikoff and Marchand they differ from the macrophages in that they have the power to develop immune bodies and take up readily such dyes as lithium carmine, pyrobor blue, and trypan blue when these are injected intravenously without being destroyed by them; whereas the other cells of the body are either stained very faintly on prolonged and frequent injections or not at all. They have the power of detaching themselves and become moveable. We find them as the wandering cells of the connective tissue—the histiocytes, the splenocytes and monocytes, the endothelial leucocytes of the blood. The peripheral circulation, however, contains very few of them because in the passage through the heart and lungs most of them are filtered out. The reason I go into this brief discussion of the reticulo-endothelial system is because in studying the spleen one should bear in mind that one is really studying that system and that the two are inseparable.

We take it for granted that normally the spleen destroys a large number of red blood cells, and that the products of that destruction are being prepared for the liver. When blood destruction is increased we find the red cells and blood pigment lying between the pulp cells,

some of the former may be found intracellular.

What happens when a normal spleen is removed from a normal animal? Splenectomy produces varying degrees of anemia, secondary in type. What that anemia is due to no one can definitely say. Some authorities claim that the spleen manufactures a hormone which is a bone marrow stimulant. They base their claim on the fact that injecting saline extract of fresh spleen intraperitoneally in splenectomized animals gave a sharp increase in red blood cells and hemoglobin for at least two days. Furthermore, an anemia produced in a splenectomized animal is of greater severity, longer duration and slower repair while the leucocytosis is greater than in an animal with a spleen.

The red blood cells in an animal whose spleen has been removed develop an increased resistance to hemolysins. To get a full toxic effect of a particular hemolytic substance it is necessary to give splenectomized animals doses two or three times greater than for normal animals. Three theories are put forward to explain this greater resistance of the red blood cells. One is that all anemias even without splenectomy give that greater resistance of the red cells. Another is that the bone marrow proliferating after splenectomy throws into the circulation young red blood cells which are more resistant than the older ones.

Banti claims that the cells passing through the spleen are acted upon in some way which weakens them and they become more susceptible to hemolysins. This substance may be increased under pathological conditions as in hemolytic jaundice. At present we have no proof that the spleen contains an hemolytic substance. But it is quite possible that it does store or elaborate a lipid substance which is concerned directly or indirectly with hemolysis.

A splenectomized animal shows a lessened tendency to jaundice and usually to hemoglobinuria when corresponding doses of the same hemolytic substance are given. This is explained by the fact that the hemoglobin liberated by the spleen passes directly through the portal system into the liver. When, however, the spleen is removed the disintegration of the red cells takes place in the lymph nodes and bone marrow. From these the hemoglobin does not pass directly to the liver but gets into the general circulation first, from which it reaches the liver in a more dilute solution and more slowly. Thus the bile pigment is formed slowly and the bile capillaries can excrete it. It is only when the hemoglobin is supplied to the liver in large amounts and rapidly that the bile pigment is formed so rapidly that the bile capillaries cannot remove it fast enough and reabsorption takes place. And if the supply of hemoglobin is still greater and more rapid so that even the liver cannot take it up fast enough we then get an hemoglobinuria. Furthermore the anemia and the greater resistance of the red blood cells probably have also something to do with the lessened tendency for jaundice.

In a splenectomized animal the destruction of the red cells is taken up by the endothelial cell of the lymph nodes, liver and endothelial cells of the bone marrow, in other words the remains of the reticulo-endothelial system. And the marrow of the long bones is changed from yellow to red marrow.

When the splenic vein is ligated an atrophy of that organ takes place but no thrombosis or necrosis; furthermore the same generalized changes occur as if a splenectomy had been performed. The same changes occur when the splenic vein is transplanted to the inferior vena cava or an Eck fistula made. These operations usually produce an initial leucocytosis, at first predominantly polynuclear, then lymphocytic. Whether

these changes are due to a loss of blood to the liver or a loss of splenic hormone to the hematopoietic system, it is impossible at present to say.

In man, we know that splenectomy in hemolytic jaundice is followed by a reduction in uric acid, iron and urobilin diminution, indicating a decreased destruction of tissue and blood elements.

Conclusions:

1. The study of the spleen is very much neglected.
2. The spleen in the mammal is the main depot of the reticulo-endothelial system.
3. Removing a normal spleen from a normal animal gives
 - a. Anemia, secondary in type.
 - b. Increased resistance of the red blood cells to hemolysis.
 - c. Lessened tendency to jaundice and hemoglobinuria.
 - d. Endothelial proliferation in lymph nodes, liver and bone marrow, i.e., a compensatory hyperplasia of the remains of the reticulo-endothelial system.
4. Although the functions of the spleen have not been definitely determined yet the following ones can be attributed to it.
 - a. Blood destruction.
 - b. Elaborating a hormone which is a stimulant to the hematopoietic system.
 - c. It is the main depot of the macrophage cells and antibody formation.

REFERENCES:

- Oster—Splenic Anemia, *Am. Jour. Med. Sci.*, 1900, v. p. 19.
 Sippy—Splenic Anemia, *Am. Jour. of Med. Sci.*, 1899, v. 118, pp. 428, 570.
 Carr—Splenic Anemia, *Lancet*, 1892, v. 1, p. 363.
 Bovaird—Primary Splenomegaly, *Am. Jour. Med. Sci.*, v. 120, 1900, p. 377.
 Stillman—Von Jask's Anemia, v. 153, 1917, p. 218.
 A. A. Maximow—Physiological reviews, v. 4, No. 4, p. 533, 1925.
 R. S. Cunningham—*John Hopkins Hosp. Bull.*, 1922, xxxiii, 257.
 Ibid—1924, xxxv, 111.
 Carrell, A. & H. Ebeling—*Jour. Exper. Med.*, 1922, xxxvi.

Labor and Health

There is a definite medical slant to almost every phase of human endeavor. It is difficult to study any science, from astronomy to sociology, without recognizing definite relationships and applications to medicine.

In the June issue of the *Special Bulletin of the New York Department of Labor*, under the heading, "New York Labor Laws Enacted in 1925," one notes a variety of laws alleged to apply to labor, which present distinctly medical phases. The reduction of the hours of labor of children under sixteen years of age in factories to forty-four instead of forty-eight hours is of as great consequence medically as the regulation of the hours of caisson workers, and the reduction of the maximum pressure under which an employer has discretion to determine the time of each shift. The one hour day for caisson work, under forty-eight pounds or more pressure, is designed to protect health, although it is included as a labor law.

Equally significant to physicians is the amendment of the state law, so as to provide vocational rehabilitation of disabled children under fourteen years of age. The breadth of the new act is apparent through its application "to all children, however young, who by reason of physical defect or infirmity other than blindness or deafness are or may be expected to be totally or partially incapacitated for education or for remunerative occupation." Cities and school districts must provide such children with transportation; special educational facilities; tuition; maintenance; surgical, medical or therapeutic treatment; hospital care; crutches, braces and other appliances. Also the State Department of Education must provide these benefits within its appropriations.

Even enactments relating to the power of the Industrial Commissioner to seize articles unlawfully made in tenement houses is in the interest of public safety and hygiene. Legislation pertaining to Workmen's Compensation Acts, primarily designed for the protection of employees, has its effects upon medical practice, in that compensation is now to be allowed after the first seven days of disability, instead of fourteen days.—(*Am. Medicine*.)

The Physician's Library

Who's Who in American Medicine. 1925. Lloyd Thompson, M.D., and Winfield S. Downs, editors. 1,820 pages. New York: Who's Who Publication, Inc., 799 Broadway, 1925.

If you would know who is who in the American medical professions get this book. Practically all the leaders are mentioned and it offers one a splendid opportunity to know the antecedents of the men who are doing things in a medical way.

The book is the brain child of Dr. Thompson and he has produced a volume which will prove quite indispensable.

Not only is the biography of several thousand physicians given, but the staffs of several hundred hospitals are compiled.

The editors are entitled to great credit for the idea as well as the excellence of this useful book.

Nephritis. By Herman Elwyn, M.D. of Gouverneur Hospital, New York. 347 pages. New York: The Macmillan Co., 1926.

The advances in our knowledge of histology, blood chemistry and physiology of the kidney warrant the publication of a book like this. It is a correlation of the clinical phenomena with the pathological changes. Among the 18 chapters of this useful presentation of an important subject are those devoted to physiology, renal insufficiency, hypertension, uremia, renal arteriosclerosis and the many diseases to which the kidney is heir. Dr. Elwyn has given us a very well worthwhile book.

Personal and Community Health. By Clair E. Turner of Mass. Institute of Technology. 426 pages. St. Louis: C. V. Mosby Co., 1925.

The student of hygiene will be pleased with the great amount of useful knowledge compressed into short space in this little treatise. Among subjects considered are hygiene of nutrition, bodily action, central nervous system, reproduction and the mouth, disease prevention, communicable diseases, immunity, food control, water supply, public health administration, school and industrial hygiene.

The book is well written along practical lines and has an excellent bibliography.

Insects and Disease of Man. By Carroll Fox, M.D., Surgeon, U. S. Public Health Service. 249 pages. Philadelphia: P. Blakiston's Son & Co., 1926.

This is a thoroughly practical work on medical entomology, and is intended for the field health officer, physicians, entomologists, and others. The first part deals with the Classification, Identification, Anatomy, Life History, General Considerations, Key to Subfamilies, etc., together with a chapter on Arachnida and Rodents and Notes on technique.

Part II discusses the diseases carried by Anthropods among human beings. Under each disease is given the Causative agent; Source of Infection; Mode of Transmission; Period of Incubation, Communicability; Epidemiology, etc.; Recognition of the Disease, Prevention and Control, Treatment of Carriers, Prophylaxis and all practical points including the smaller details, such as the articles required, detailed instruction in the preparation of material, and the investigations to be made by the field worker. The author has had considerable experience in the Public Health Service and has written a book which is truly practical in all respects.

Operating Room Procedure. By Henry C. Falk, M.D. of the French Hospital, New York. 385 pages. New York: G. P. Putnam's Sons, 1925.

While this little book is intended for nurses and interns, it could well be read by every physician who ever assists at an operation.

It is exceedingly comprehensive and may well be used as a text book. The reader who will master the technic set forth will indeed be a master.

Intravenous Therapy. By Walton F. Dutton, M.D. of Amarillo, Tex. 594 pages. Philadelphia: F. A. Davis Co., 1925.

If one desires information on the subject of intravenous therapy this is the fountain head. The first part of the book is devoted to such subjects as venesection, infusion of salt solution, blood transfusion and general intravenous technic, while the second part is given over to intravenous medication in more than one hundred conditions.

While the bibliography is not as complete as one might desire, the work is one of much excellence.

The Health-Care of the Baby. By Louis Fischer, M.D. 15th Edition. 267 pages. New York: Funk & Wagnalls Company, 1925.

This can hardly be called a revised edition, because it is completely rewritten, revised, and reset, and includes the latest developments in the management and feeding of infants—normal, premature, sick, and delicate. Dr. Fischer has compressed into a small volume a large mass of valuable, scientifically accurate information, but what is of equal importance is that he has presented the material in direct, simple, clear language so that any one who can read can understand what he says and can follow the directions which he gives. Needless to say this feature is of vital importance, particularly as it applies to the care of helpless babies.

Dr. Fischer is one of our best pediatricists and any book of his is authoritative.

Bone Sarcoma. By E. A. Codwenn, M.D. of Boston. 93 pages. New York: Paul B. Hoeber, Inc., 1925.

An interpretation of the nomenclature, as used by the committee on the registry of bone sarcoma of the American College of Surgeons is made by the registrar. To surgeons the little book will have a distinct appeal.

Headache. By Thomas F. Reilly, M.D. of New York. 246 pages. Philadelphia: P. Blakiston's Son & Co., 1926.

Of headaches there are many varieties, all of which Dr. Reilly presents. Incidentally he tells how to treat them successfully, after describing them in detail. It is a job well and interestingly done.

Ears and the Man. By Annetta W. Peck, Estelle E. Samuelson, Ann Lehman of the New York League for the Hard of Hearing. With an introduction by Wendell C. Phillips, M.D. 217 pages. Philadelphia: F. A. Davis Company, 1926.

These three authors, themselves deaf, are the first of their profession to enter this new field of social work for the deaf. They are concerned with the human side of deafness and have a viewpoint of their own, for they are on the inside looking out. It is a practical book in a virgin field in which rich harvests are about to be reaped.

Old and New Viewpoints in Psychology. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. 166 pages. St. Louis: The C. V. Mosby Co., 1925.

This volume contains three public lectures delivered at the Johns Hopkins University and two papers read before the Southern Society of Philosophy and Psychology. One lecture was prepared with the co-operation of others, while the four others show the author's own views.

Dyke's Automobile and Gasoline Engine Encyclopedia. By A. L. Dyke of St. Louis. 14th edition. 1,232 pages. Chicago: Goodheart-Willcox Co., Inc., 1925.

Would you diagnose the ailments of your car? After proper diagnosis, do you care for the prognosis and treatment? If so, consult this great book. It is the Gray's anatomy, Cabot's physical diagnosis, and Osler's treatment of the automotive industry. Everything about a car is contained in its pages and it may well be called the Alpha and Omega of cardom.

The reviewer knew little about the internal arrangements of a motor before he studied this work, but now he considers himself something of an expert.

Dyke's Encyclopedia is a book all car drivers should own.

Physical Diagnosis of Diseases of the Chest. By Joseph H. Pratt, A.M., M.D., and George E. Bushnell, Ph.D., M.D. 522 pages. Philadelphia and London: W. B. Saunders Company, 1925.

We learned many lessons during the late war. One was that too many of our young men are below par physically. The authors have set forth some of their knowledge in the form of an excellent text book. Col. Bushnell, U. S. Army, retired, was the premier tubercular specialist of the army while on active duty. He has prepared the chapters on the lungs, while Dr. Pratt has given us the data on the heart. Both men are entitled to great credit for the practical excellence of their contributions.

The subjects have been treated in great detail, so that the reader has a wealth of the latest thought of the subject within the range of his vision.

To any man who makes physical diagnoses this volume will prove of very great value.

Physiology. By William D. Zoethout, Ph.D. of Loyola University. 2nd edition. 616 pages. St. Louis: C. V. Mosby Co., 1925.

The author has intended this book for the student who devotes not over 150 hours to the study of the subject. As a result he has kept to the fundamentals, with the thought in mind that the reader who may be desirous of more detailed knowledge will refer to the more comprehensive books. The subject matter is clearly presented in a most readable manner.

Non-Surgical Treatment of Diseases of the Mouth, Throat, Nose, Ear and Eye. By Thomas H. Odeneal, M.D. of Beverly, Mass. 428 pages. Philadelphia: P. Blakiston's Son & Co., 1926.

The author gets right down to the fundamentals of treatment in this interesting little book. Unlike some writers, he does not hesitate to recommend a proprietary product when its use is indicated. The book is full of good, common sense methods of medical treatment and it should prove welcome for that reason.

The Therapy of Puerperal Fever. By Dr. Robert Koehler of Vienna. Translated by Hugo Ehrenfest, M.D., of Washington University. 276 pages. St. Louis: C. V. Mosby Co., 1925.

Prophylaxis and therapy are the subjects treated in this book, the first including protection of the patient and immunization by vaccines and sera and the second under the headings of general, local and surgical therapy, medicinal treatment of the general infection and chemotherapy. The subject is well treated and many illustrative cases are quoted.

Allergy. By William W. Duke, M.D. of Kansas City, Mo. 339 pages. St. Louis: C. V. Mosby Co., 1925.

Part I discusses experimental anaphylaxis, serum sickness, bacterial allergy and illness in human beings traceable to specific hyper-sensitiveness to material agents. The second part is devoted to reactions caused specifically by action of physical agents and in the case of heart sensitiveness, indirectly by the effect of mental or physical effort. In those few lines are included the synopsis of the book and a mighty valuable addition to the literature it is, too.

Eye, Ear, Nose and Throat Manual for Nurses. By Roy H. Parkinson, M.D., of San Francisco. 207 pages. St. Louis: C. V. Mosby, 1925.

This manual is intended to give the nurse a bird's-eye view of the subject matter and it succeeds in its purpose admirably. As a matter of fact, it would make a good quiz compend for the medical student, as diseases are set forth clearly and succinctly.

Methods of Surgery. By Glover H. Copher, M.D. of Washington University. 231 pages. St. Louis: C. V. Mosby Co., 1925.

This is a useful little book, setting forth the outlines for case history taking, pre-operative and post-operative care of patients, with methods of routine, feeding, as carried out in several St. Louis hospitals. The ideas should fit into the plan of any well organized hospital.

Simplified Nursing. By Florence Dakin, R.N., inspector of Schools of Nursing, State of New Jersey. 497 pages. Philadelphia: J. B. Lippincott Co., 1925.

Out of an extensive nursing experience covering more than twenty years, the author presents the fundamentals of nursing in a simple, easily understood form but with technical accuracy. It is covered under three sections as follows: I. Routine Work; II. General Nursing Methods; III. Special Nursing Methods, followed by a complete Glossary and full subject index. The text is illustrated and presented with the confidence that it meets a long-felt need for a simple text with an accurate background, dealing throughout with essentials.

Operative Dentistry for Children. By M. Evangeline Jordan, D.D.S., of Los Angeles. 182 pages. Brooklyn: Dental Items of Interest Pub. Co., 1925.

If the information set forth herein were married our children would grow into adulthood with good teeth and pyorrhea would receive a body blow.

Clinical Medicine for Nurses. By Paul H. Ringer, M.D. of Asheville, N. C., 306 pages. Philadelphia: F. A. Davis Co., 1925.

This is a well planned and well executed book, designed to give the nurse all she needs to know about symptomatology and treatment of diseases, as can be carried out by diet and nursing care. Therapy is not stressed.

Diagnosis and Treatment

Syphilitic Involvement of the Heart and Circulatory System

The syphilitic origin of so many cases of aortic regurgitation, aneurysm and myocarditis reflects the urgent necessity of early detection of these lesions in order to prevent progressive damage. Recognition of the fact that cardiovascular involvement by syphilis is so prone to occur is acting as a very great stimulus to practitioners for the early detection and the early adequate treatment of syphilis in order to prevent the circulatory involvement. Every case affected by syphilis is a case of potential heart disease. Cardiovascular syphilis may be symptomless. If there be symptoms, the most suggestive are pain and shortness of breath, located by the patient as under the upper sternum. Pain tends to radiate somewhat similarly to that occurring in angina pectoris. Other symptoms are edema, dilatation, palpitation, throbbing carotids and tachycardia. Sudden death due to exacerbations of latent syphilitic myocarditis may occur.

Heart statistics.—Cabot found that among 562 patients suffering from heart diseases 75 per cent were attributable to syphilis. Grassman, among 288 cases of secondary syphilis, found marked disturbances of rate and rhythm in 85 per cent, and murmurs in 40 per cent. Examinations made by Siegel on 297 recruits of from 21 to 31 years old, and who had been rejected as unfit because of cardiovascular pathological conditions, found a history of syphilis in 15.2 per cent.

In a lecture held last year before the Southern Medical Association at New Orleans, Roberts stated that in the registration area which he studied in 1922, heart disease was given as a cause of death in 134,184 cases. Kidney diseases followed with 78,312, cancer with 78,355, cerebral hemorrhage with 76,538, pulmonary tuberculosis with 75,905 and lobar pneumonia with 45,712.

Heart cripples are estimated at 1,947,813 in the United States for 1922. In New York State mortality statistics at 40 years and over, for 1922 and 1923, give heart diseases at 20.3 per cent of all deaths. In New York City heart disease kills three times as many as tuberculosis, more than twice as many as cancer, and it is estimated that 150,000 persons die of heart disease annually in the United States. St. Lawrence studied 100 families where 1 or more cases of heart disease were known to exist. Upon close examination he found 38 additional cases. Of this group 70 per cent (27) were unaware of their disease.

Heart pathology.—Warthin describes the new pathology of syphilis as follows:

1. The gumma is not the essential typical lesion of old or latent syphilis. It is a relatively rare formation; and the great majority of cases of syphilis run their course without the formation of gummatous granulomata.

2. The new pathology of syphilis is based upon the demonstration that the essential tissue-lesion of either late or latent syphilis is an irritative or inflammatory process, usually mild in degree, characterized by lymphocytic and plasma-cell infiltrations in the stromas, particularly about the blood vessels and lymphatics, slight tissue proliferations, eventually fibrosis, and atrophy or degeneration of the parenchyma.

3. These mild inflammatory reactions are due to the localizations in the tissues of relatively avirulent spirochetes.

4. Syphilitic inflammations of this type occur in all tissues and organs; but are most easily recognized in the nervous system, heart, aorta, pancreas, adrenals, and testes. They are, however, usually widely distributed throughout the entire body, although in individual cases showing especial predilection for certain organs or tissues. No explanation of these system, organ, or tissue predilections is yet evident; neither is there any explanation of those cases in which all organs and tissues show the most severe degree of these lesions.

5. The syphilitic is a spirochete carrier. In this respect, the *Spirochaeta pallida* is to be classed with the trypanosome, the malarial organisms, lepra and tubercle bacilli, streptococcus, etc.

6. Syphilis tends to become a mild process; but at any time the partnership between the body and the spirochete may become disturbed, and tissue susceptibility or virulence of the spirochete becomes increased so that the disease again appears above the clinical horizon.

7. Immunity in syphilis depends upon the carrying of the spirochete. A price is paid for this immunity in the form of the defensive inflammatory lesions previously described.

8. The disastrous effects of syphilitic infection usually require a period of years for their development. The slowly progressive lesions, fibrosis and atrophy, may at last manifest themselves in paresis, tabes, myocarditis, aortitis, aneurysm, diabetes, hepatitis, or in many other forms of tissue damage and functional disturbance. Lesions of the viscera are much more common and important clinically than those of the central nervous system, but they are rarely recognized as syphilitic by the clinician. Syphi-

litic death occurs most frequently in males between the ages of forty and sixty. Chronic myocarditis is the most common form of death due to syphilis.

Aorta statistics.—By many writers aortic insufficiency has long been considered as most frequently caused by syphilis. Symmers, among 314 autopsies of late acquired syphilis found sclerosis of the aortic valves in 64 cases. Port arrives at the conclusion that syphilitic aortitis exists in all patients over 50 who have a positive reaction to the Wassermann test.

The primary involvement of the aorta occurs in the adventitia and media. The elasticity of the aorta is thereby altered. Fibrosis and adhesion to surrounding organs occur. The inrush of the blood from the heart is hindered. Willius, among 30 patients, found 15 with a strongly positive Wassermann reaction. In 6 the spinal fluid showed a positive reaction. Stadler, in the Leipzig clinic and Eich in the Düsseldorf Pathological Institute found that most deaths from specific aortitis occurred between the ages of 40 and 49, but they also saw frequent syphilitic changes between 60 and 70. Howard found 40 per cent of cardiac disease in his patients. He considers 30 to 60 per cent of all cases of aortic regurgitation, many cases of angina pectoris and practically all cases of aortic aneurysm due to syphilis. Etienne found 93 per cent of aneurysms in syphilitics. In 100 consecutive autopsies, 55 showed microscopic pictures of syphilis and spirochetes were found in the aorta in 2 cases. In this group there were only 2 cases of aneurysm (Lemann and Mattes). Aortic aneurysm is found three times more often in men than in women. Stolkind saw no case of congenital syphilitic aneurysm in children.

In England and Wales the interval between the syphilitic infection and the appearance of the aneurysm amounted to 15 to 30 years. Tiselius reported that among 850 insured persons with syphilitic infection 3.4 per cent died of aortic aneurysm. Blaschko, among 150 cases reported 2.6 per cent of deaths from this cause. Chaffard and Welsch found 61 per cent of aortic lesions in a group of 56 syphilitics. Etienne of Nancy in various statistics comprising 412 cases found 50 per cent. Joltrain found 60 per cent. When the Bordet-Wassermann test is made the number increases. Among simple aortitis without aneurysm, 82 per cent were found to be syphilitic.

Aorta pathology.—There are a number of writers who thought they consider syphilis the chief cause of aortic aneurysm do not consider it the only one (Bel, Reuta, Benda, Wright, Warthin, Longcope). Musser and Bennett state that in the early stages of spirochetemia there is an invasion of every aorta. Willius and Fitzpatrick found 167 syphilitic cases among 463 of aortic regurgitation. Roberts found syphilis as the cause of death from aortic insufficiency in 75 per cent. Aortitis is given with 3.5 per cent to 7 per cent in general autopsies by Reid. In syphilitic autopsies he gives it with 67.4 to 85 per cent. Warthin gives the startling figure of 88 per cent of aortitis in one-third of the autopsies performed on adults at the University of Michigan.

The lesions produced by syphilis in the smaller vessels distant from the heart do not cause the same functional disturbances as do the cardiac and aortic, but the central nervous system often suffers intensely from their involvement and the infection may be traced in the cerebrospinal fluid in syphilitic aortitis. Autopsies have frequently revealed the association of late aortic syphilis with different varieties of neurosyphilis. A clinical study of the spinal fluid made by Musser and Bennett in 30 cases of syphilitic aortitis, including 14 aneurysms, showed that 20 per cent had an associated cerebrospinal infection. Syphilis of the smaller blood vessels of the brain presents itself most often as an atypical form of general paralysis with a tendency to become chronic and intermittent. Other clinical pictures produced are general paralysis, cerebral syphilis of the schizophrenic form, epilepsy, tabetic psychosis, mental confusion, agitation, mental debility, visual and auditory hallucinations and speech disturbances, the latter being relatively rare. Albuminosis of the spinal fluid is almost always found. Many writers consider nerve involvement rare in mesoarterial patients. Frisch found aortic complications in 45 out of 115 cases of neurosyphilis.

Clinicians and psychiatrists agree, for the latter find 30 to 33 per cent of aortitis in paralytics and the clinicians find involvement of the nervous system in 30 per cent of the cases of aortitis. Most patients develop the clinical symptoms of aortitis between 35 and 50 years of age, and the time of incubation of this type of syphilis is about the same as that for paralysis.

In the psychiatric university clinic at Hamburg-Friedrichsberg, 341 autopsies were made on paralytics. Among this group there were 228 who had no signs of aortitis; 113 had aortitis. Among those with cerebral syphilis 3 had aortitis and 6 had not. Generally the aortic involvement is slight and the patients rarely complain of cardiac or respiratory discomfort. Close examination generally will, however, reveal an aortitis. It is benign in most instances in cases of syphilis of the central nervous system.

It has been found that in paralytics aortic disease may be a serious complication when malaria treatment is given.

Symptoms.—Clinical symptoms are sometimes wanting, though generally there are cardiac weakness, circulatory disturbances, the cardiovascular renal complex presenting. Cardiac dilatation sometimes constitutes a later stage.

Shortness of breath, palpitation, precordial pain, anginal attacks, irregularity of pulse, swelling of ankles, dizziness, general weakness, ringing in the ears, these are the most common subjective symptoms. Symptoms of mesoarteritis are dependent on the site of the lesion in the vessel. Paroxysmal dyspnea is usually independent of exertion. Symptoms referable to other organs, especially gastrointestinal tract and liver, are common. Other physical findings are meager. Pulsation in the subclavian and carotid arteries with an impulse in the episternal notch, may be present in the first and second costal interspaces. Behind the upper portion of the sternum dull pressure is felt upon physical exertion. The effort syndrome always occurs in cases associated with aortic aneurysm. In cases of angina pectoris without aortic lesions 20 per cent show the effort syndrome. Among cases of angina pectoris with aortic lesions a syphilitic history was found by Gallavardin in 88 per cent.

Pressure back of the sternum in young persons must always attract attention to aortic syphilitic conditions. Schmidt has found that sensitiveness to pressure in the left brachial plexus points likewise to aortic disease. Cold weather and copious meals aggravate aortalgia.

Palpitation is not generally complained of in the beginning. Although insufficiency of the aortic valves exists in many cases, the symptoms are not intense until compensation becomes disturbed. Then fully developed angina pectoris may suddenly appear. In all stages of aortic syphilis varying degrees of dyspnea may be seen even where there is no aortic valvular insufficiency. When decompensation has set in lancinating or pressure pain is felt at the cardiac apex and along the left cardiac border. It is due to dilatation of the left ventricle. According to Schottmüller hypertrophy of the left ventricle is not always a sign of involvement of the aortic valve.

One of the main, if not the cardinal symptom, is the accentuation and ringing of the second aortic sound. Accentuation without change in sound has only relative diagnostic value. The specific sound has been described as metallic or bell-like, ringing or clanging. Clinically, a diastolic, rather than a systolic murmur at the base of the heart appearing between the ages of 35 and 45 is, in most instances, syphilitic.

Extrasystoles.—Very often a few isolated symptoms only will be given especial attention. Rhythmic cardiac disturbances are generally noticed both by the patient and the physician. Extrasystoles are heard in the secondary stage. They are not always a direct consequence of syphilis, but may be due to neuropathic conditions. The extrasystoles of the tertiary stage are definitely syphilitic and may be due to severe lesions of the heart or vessels. They may be due to myocarditis and specific aortitis with or without angina pectoris. In some cases they appear as a sign of hypertension and may be seen in tabes and in congenital syphilis, especially where aortitis exists.

Tachycardia.—Tachycardia may either constitute a simple acceleration of the pulse with preservation of the fundamental cardiac rhythm or there may be paroxysms of acceleration with severe disturbances of sinus rhythm. Rapid beating of the heart upon exertion is frequent in recent syphilis. In simple acceleration the cardiac beats are irregular. It is also frequently found in secondary syphilis. There may be tachycardia while the patient is in an upright posture. Rhythm is regained slowly. In secondary syphilis, it is a sign of syphilitic involvement of the thyroid. During the tertiary stage tachycardia is generally the sign of circulatory impairment, myocarditis or chronic aortitis. Constriction of the femoral arteries, Katzenstein's test, will show increased systolic blood pressure when the myocardium is efficient.

Bradycardia.—Syphilitic bradycardia may either involve the ventricles and the auricles without changing the fundamental rhythm or it may involve the valves only and maintain a normal but slow beat. Total bradycardia comes on after exertion and emotion.

Hypertension.—Hypertension is often considered a sign of syphilis. Walker and O'Hare, however, found that syphilis was three times as prevalent in control cases as in those with hypertension. Some other writers report 90 per cent of syphilis in patients with hypertension. Thom in the municipal prison of New York found 50 per cent of all syphilitics with increased blood pressure.

Radiating pain and shortness of breath behind the upper portion of the sternum as is seen in angina pectoris is most common. There is an extension downward and toward the left of the heart of the dullness on percussion and most frequently murmurs occur which are systolic and found at the level of the aorta. Often the Wassermann is negative and the X-ray will not detect all cases of heart involvement.

The differential diagnosis takes into consideration nonspecific aortitis, arteriosclerosis, hypertensive heart disease, rheumatic heart disease, pulmonary tuberculosis, mediastinal tumors and tabs.

Venous involvement.—Venous involvement of syphilis generally consists in a knotty thickening, periphlebitis, or diffuse thickening of the walls. The vein may be involved in its entirety. Heat, swelling, and pain mark the inflammation. Sometimes an eruption simulating erythema nodosum exists and lasts a few days or weeks.

Prognosis.—During the primary and secondary stages prognosis of organic heart disease is good unless specific resistance to arsphenamin or other syphilitic drugs exists. A relapse after marked improvement is of bad prognosis. Continued uncontrolled lack of rhythm is likewise unfavorable. A permanent myocardial injury must be accepted in all tertiary cases. Treatment must be long continued and small doses given. Nearly 70 per cent. of Loncope's cases died within 2 years. The prognosis of vascular disease, according to him, in hospital cases at least, is rather bad. The majority of them die within 5 years after the diagnosis of aortitis has been made.

Treatment.—Specific treatment can not restore tissue already destroyed by syphilitic infection. It can only arrest the degenerative process. The more advanced, the more doubtful the response to treatment. Older persons should be treated with great caution. Active treatment of the central vascular syphilis includes two factors, treatment of the infection and treatment of cardiac insufficiencies. The opinions of the various clinicians differ widely and no standardization has been reached. Stookey is of the opinion that nearsphenamin should not be used in older patients. Younger persons whose cardiovascular syphilis is of recent date derived benefit from vigorous treatment. Mercury followed up by nearsphenamin has been well tolerated by them. Görl found a diminution of the cardiac enlargement upon administration of potassium iodid and bismuth preparations. He is of the opinion that aortitis may be treated with salvarsan, but myocarditis with mercury and iodids or bismuth. If cardiac and aortic lesions are advanced, Cumston thinks mercury and potassium iodid are the proper drugs and arsenic should be avoided. Many other clinicians follow similar lines. Many of them are guided by the Wassermann reaction in the number of courses which they administer. Anderton gives the Swift-Ellis intraspinal treatment of arsphenamin to patients with cardiac and central nervous syphilis. Hazen is very skeptical toward the use of iodids and encourages arsphenamin and mercury. He is of the opinion that intramuscular administration of arsphenamin should be avoided on account of the pain. These patients, he states, tolerate intravenous injections better. He gives mercury intramuscularly. Ridge is of the opinion that specific treatment is of little value. He considers the arsenicals contraindicated in the majority of cases.

Early diagnosis and continued treatment, from the beginning, of every case of syphilis are necessary. The circulatory system of each patient must be examined and frequently reexamined carefully, and no patient with suspected or established cardiovascular syphilis should be dismissed from treatment until the physician has been fully convinced of his cure. Brandenburg and Schottmüller have advocated repeated prophylactic anti-syphilitic treatment of all syphilitics in order to save the circulatory system from later danger.—(*U. S. Public Health Service Bulletin.*)

The Treatment of Tuberculosis

J. A. Dungan of Greely, Col., thinks sunshine, fresh air (night and day), moderate exercise (or entire rest in bed as befits the exigencies of the special case in hand); a diet consisting of lean beef, eggs and milk, all three given to the limit of the patient's ability to digest protein foods, are the essentials. To this should be added cod-liver oil, a tablespoonful after each meal (or before, as suits the patient's desire). To control the septicemia, he advises, a small enema of soda water—thirty-five Grams of sodium bicarbonate to the quart of blood-worm water—as much of the enema as possible being retained.

Oil of eucalyptus is rubbed over the chest (back, sides and front) each day.

Intensive treatments of the air-cooled ultraviolet ray are given daily.

Twice a week he injects intravenously 5 cc. of a sterilized solution containing 15 grains of calcium chloride, C. P., in distilled water.

In Clinical Medicine for February and May, 1924, there appeared articles by the writer in which were described a pneumothorax machine and its use.

He has since that time given two hundred and fifty pneumothorax treatments to forty-seven patients with pulmonary tuberculosis and considers it "*facile princeps*" among the single reme-

dial agents to which he has access in the fight with the "great white plague."

In only two of these cases has he found that the patient experienced any of the phenomena of which we are warned by so able an authority as Da Costa. In these two cases, some hours after the primary injection of 1,000 cc. of filtered air into the pleural sac, there was slight pleural shock which soon disappeared and never recurred, although these patients subsequently received several "refills." These two were both desperate cases of tuberculosis of the lungs, and in both there were leaky hearts. Of the forty-five others treated by the pneumothorax method, in connection with the measures enumerated above, the lung conditions are now improved to such an extent that he considers them clinically cured.

Case 1.—Mr. G. W. F., age 24, married, first seen September 28, 1923. In June, 1922, he had suffered from slight pulmonary hemorrhages. He had lost thirty pounds in weight (when seen weighed 110 pounds). When able, he insisted on working, despite my earnest warnings.

The author gave him, during the following year, forty or fifty injections of a sterile 5-per cent. solution of calcium chloride, occasionally giving him as much as 100 cc. at a dose. During this year his weight, in spite of his unfavorable living conditions, increased to 127 pounds.

Occasionally, he had slight hemorrhages, but he would not take pneumothorax treatments.

His condition became distinctly unfavorable in October, 1924, and on the 15th of November of that year he had a severe hemorrhage. Confined to his bed with a high temperature, he developed a tuberculous pneumonia. Another exhausting hemorrhage, on November 16th, convinced him that his only chance, faint though it admittedly was, lay in artificial pneumothorax, but this, on account of his desperate weakness, Dungan was unable to give him until November 18th. At that time he could scarcely raise his hand from the stretcher as he was taken to the hospital. The doctor injected 1,000 cc. of filtered air into his left pleural cavity.

He was put to bed in the sitting position. About midnight his breathing became very difficult; his heart beat with extreme rapidity and a blotchy pallor appeared upon his face. In this emergency, he was given whisky by mouth, strychnine nitrate hypodermically and, later on, hot milk by mouth. Hot water bags were applied to his feet, and manual friction used upon his hands and arms. His breathing soon became more regular, the normal color came back to his face and the heart beats slowed and strengthened. Three days later he walked downstairs and was driven thirteen miles into the country to his home.

Thirteen refills, ten days apart, and averaging 150 cc. each, have so far been given him. His weight is now 121 pounds. He is working as a traveling salesman, and is clinically well of tuberculosis of the lungs.

There has never, since November 18th, been any sign of hemorrhage except twice in a "red-colored" sputum. There is on elevation of temperature in the afternoon, and no rales of any description in his left chest. The right lung is fairly good, never having been markedly affected. His heart, moreover, is normal in beat and rhythm, though the leak can be heard more plainly than before, probably on account of transmission of the sound by the injected air. His appetite is good, and he sleeps at night. He is not disturbed by coughing and expectorates very little, the flora in the sputum being practically nil.

Case 2.—Mr. L. C. A., single, age 24. In May, 1921, he went to a sanatorium for tuberculous patients and spent 11½ months there. He was moderately improved, gained in weight, felt better and learned how to take care of himself. In the spring of 1922, he began to lose weight and his left lung began to consolidate and disintegrate rapidly. At this time Dungan first saw him. He put him on the usual diet, with cod-liver oil, tonics and bi-weekly intravenous injections of calcium chloride in distilled water. His disease seemed to become stationary. He refused pneumothorax treatment.

The author did not see him until February, 1925. At this time, while the right lung was in fairly good condition, hardly any air was entering the cells of the left lung. Various squeaks, whines, rubs and thumps could be heard over the left chest, back and front, but practically no air sounds.

His weight had decreased from one hundred and forty-two pounds to one hundred and twenty-one. His temperature was intermittently high, expectoration profuse, and there was great emaciation. He was extremely toxic. His heart had a mitral leak and was considerably enlarged.

Dungan told this patient, in the presence of his relatives, that he had only one hope of materially lengthening his life, and that was the chance that he might be able to find a non-adherent spot in his pleural cavity and collapse the diseased lung, thus shutting off the production and absorption of toxins. He eagerly consented to the pneumothorax operation.

Upon percussing and auscultating the left chest, he found faint breath sounds about six inches below the axilla. Also, there was a deeper resonance upon percussion, suggesting that the air was here entering the pulmonary alveoli, and that the pleural surfaces were freely movable upon each other. He introduced the needle into the pleural sac, and the fluid in the manometer "U" tube went up nearly to the top, signifying a negative pressure as from a considerable space. On account of the condition of the heart, he introduced only 750 cc. of filtered and sterilized air.

Like the other case, he evinced the signs of some pleural shock about midnight, but this was easily controlled by the same methods used in the former case and he afterwards slept peacefully until morning, when he got up, dressed and went home, thirty-five miles out on the dry lands. To date, he has gained eleven pounds in weight, feels well, sleeps well, has a good appetite, no fever, and little expectoration. Since February he has had the air four times, and since the first time there have been no signs of pleural shock or of any other dangerous symptoms.

It is too soon to claim a clinical cure in either of these cases; but from the results to date in these two cases, as well as the other forty-five, Dungan feels very hopeful.—(*Clin. Med.*, Sept., 1925.)

Obstetrics & Gynecology

Uterine Endoscopy

I. C. Rubin of New York examined forty-two patients with the hysteroscope. Thirty-five cases were so examined in the office; six cases in the hospital. The latter were patients requiring some operation and the hysteroscopy was done as a preliminary procedure. Of the thirty-five office cases the examination was unsuccessful in two cases because of cervical stenosis. Both these patients were sterile. One patient was intolerant to the examination. Local anesthesia was employed in one hospital patient; scopolamin-morphin in another. In three cases the examination was repeated once.

In two of the hospital cases and four of the office cases, bleeding due to the introduction of the hysteroscope interfered with satisfactory vision. No further attempt was made in these cases to inspect the uterine cavity. As the No. 22 French gauge uteroscope was used in them, bleeding might prove disturbing in a much smaller percentage by using the smaller No. 15 French caliber instrument. It was felt that, because of the essential factor of inflation, it was best not to continue when bleeding to any appreciable degree was present. Insufflation as employed for the tubal patency test was used in twelve cases, the syringe in twenty-nine cases. The rubber bulb was substituted in some of the cases as a control and was found to be less practical. With the gas flowing at a uniform rate the pressure was best noted in the earlier cases. The 20 cc. syringe was found applicable and convenient and has been adopted as a routine.

In two instances the amount of gas used was sufficient to induce a subphrenic pneumoperitoneum and was associated with shoulder pains. These were slight and lasted a few minutes as carbon dioxide was used. In five patients water irrigation under negative pressure was a part of the technic. It was abandoned because of its futility. Inflation with the syringe in the nonbleeding uterus proved the best medium of distention and for vision and has been adopted as the regular procedure in the hysteroscopy. The modified McCarthy type cystourethroscopy was employed in all cases and was found to be the best adapted for uterine endoscopy.

Contraindications.—It goes without saying that uteroscopy will not be employed as an ambulatory procedure in acute or subacute inflammations of the pelvis. Where it may be deemed desirable from the diagnostic point of view to examine the uterus endoscopically in such instances there can be no objection to doing so in hospital patients. *Insufflation is, however, absolutely to be forbidden in the presence of inflammation.*

In certain cases of dysmenorrhea of the so-called obstructive type, uterine endoscopy may prove helpful by noting the behavior of the internal os functionally, or noting obstructing folds of the mucosa at the same point, ball valve-like folds or polypi causing mechanical obstruction to the escape of the menstrual flow without causing pathologic bleeding.

In the diagnosis of the uterine cause of genital bleeding, endometrosopy might have an almost routine value since it can reveal such lesions as glandular hyperplasia of the endometrium, polypi, retained products of gestation (chorioepithelioma and carcinoma). The excising uterine endoscope will prove of special value in this field. Under direct vision a portion of the diseased endometrium may be removed for diag-

nosis. The very small lesion may perhaps be totally removed in this way. It may be possible too, to introduce direct vision fulguration for uterine lesions comparable to vesical lesions.

In case of fibroids, uterine endoscopy also has a definite value in view of the modern competitive treatment by x-ray, radium, or surgical removal. It is perhaps the only simple means at our disposal to determine definitely the presence of a submucous myoma alone or amidst multiple fibromyomata in any given uterus. All other factors being equal there is general agreement on the opinion in favor of surgical removal of a uterus known to have a submucous myoma. The direct vision endometroscope affords this means of diagnosis.

In studying the cyclical changes of the endometrium in all phases of menstruation, Heineberg had suggested "that the macroscopic changes occurring in the mucosa during menstruation might also be observed in favorable cases." In a limited number of cases of early pregnancy where for therapeutic purposes interference is contemplated, study can also be made of the earliest stages of ovum implantation, etc., and specimens can be thus obtained that otherwise would be unavailable. Not only is this a convenient method of observing the endometrium but small pieces from specific areas of its surface can be removed for study. It may be possible to check up Hirschmann and Adler's studies by accurate diagnostic excision of the mucosa using a procedure which is less traumatic than curettage. (*Am. J. Obst. and Gyn.*, Sept., 1925.)

Solid Teratomata of the Ovary

In studying ovarian teratomata, Wm. T. Black of Memphis, Tenn., was struck with the confusion in classification, the various ideas concerning their origin, and the uncertainty of malignancy in the solid form. Since the cystic dermoid fulfills, even to the point of possible malignancy, the definition of a teratoma, it would not seem necessary nor even advisable for the sake of clearness, to make the distinction which is implied in describing the cystic dermoid and the solid teratoma as separate and distinct entities. They are both potentially tridermal in composition, differing etiologically only in the age of their embryonic cells. Both undoubtedly have the same origin, both are more or less cystic, and both are potentially malignant, but, since the cystic feature is more pronounced in one, and the solid consistence more pronounced in the other, sufficient difference should be made, as has been done by Eden and Lockmyer, Adami, Ewing, and Nichols, in considering them as variations in the same pathologic formation and designate them as cystic and solid teratomata.

In considering the solid form of teratoma, one must of necessity refer frequently to the more mature embryonic cell type, the cystic dermoid, as their histogenesis is apparently the same.

The occurrence of the cystic type is variously estimated as from 5 to 10 per cent of all ovarian tumors, while the rarity of the solid type can be better understood by quoting the following authors: Geist, Kelly-Noble, Eden and Lockyer, and Frank state that teratomata of the ovary are very rare; Graves states that only about fifty cases of the solid variety have been reported; Frank has collected forty-eight positive cases and fifteen doubtful ones, and Frankel, in 1920, collected only sixty cases from all the literature.

The question of malignancy seems one of doubt. A great many writers state that this type is very malignant, others that they may become malignant. They are frequently referred to as the benign dermoid and the malignant teratoma.

In studying the physiology of maturation, one becomes skeptical of the polar body theory. When maturation of the ovum takes place, the first division is made up of a large oocyte and a smaller or primary polocyte; a second division leaves the oocyte and two polocytes. By this process the chromatin is reduced to half, the centrosome is eliminated from the ovum, and cytoplasm for nourishment is left behind. For fertilization to take place in the human, the centrosome of the spermatozoon is supposedly necessary for stimulation. Parthenogenetic development in invertebrates and other lower forms of life proves that the spermatozoon is not essential for their growth.

In a futile attempt to explain the histogenesis of these malformations, one finds the blastomere theory more plausible. It is founded upon perverted embryologic and physiologic conditions. One begins to see developmental defects in the one egg twins; in conjoined twins; and in other embryologic perversions, down to the most perverted types of attempts at reproduction, an amorphous mass. There is a discrepancy in uniovular twins, whereby one grows at the expense of the other (as suggested by Schatz, Newman and others).

Hemihypertrophy, as described by Gesell, is another form of an embryologic defect. Whether the latter condition is brought about by improper fusion or fission, has not been explained.

There is at least an inequality in the number or growth of the somatic cells. Improper development of a one egg twin may be due to improper division of the fertilized ovum or to improper nourishment, the result of an inequality in the circulation. Conjoined twins represent an improper fusion or fission. Monsters devoid of head, limbs, heart or other parts, are probably due to a deficient or imperfect segmentation, or to mechanical means. A further cleavage of blastomeres results in further losses in their potentialities, which were present nearer the ovum, yet are totipotent. At one stage, isolated blastomeres may be capable of reproducing an adult type of embryonic cell, and a cystic dermoid is the result. In a further division only the early embryonic cells are present and the solid teratoma is the consequence. One blastodermic tissue may predominate and you have a tumor composed practically of one structure, e.g., struma ovarii. Driesch has shown how the developmental powers are reduced by each cell division.

In the star fish only an amorphous mass is said to develop from one of the blastomeres, at the thirty-second blastomere stage. It seems convincing from the above experimental work that isolated blastomeres after splitting to a certain stage are a reasonable cause for these embryomata, their formation depending upon the blastomere stage. Morphologic defects in the spermatozoon as well as defects in the ovum or blastomeres may produce malformations. Loeb, Häggstrom and Vand-der-Stricht think that cell division is an attempt at parthenogenesis, while Spuler, Rubaschkin and Miss Smith, especially in her recent work, believe that what was at first thought to be a beginning of parthenogenesis, is in reality a form of degeneration. The work of the latter somewhat discounts parthenogenesis. A polocyte has totipotent qualities; however, its parthenogenesis has not been proved in the human race.

While the histogenesis of teratomata is problematic in the human species, nevertheless, experimental embryology has proved that parthenogenetic development frequently occurs in some of the lower forms of life. He does not think it amiss to quote Bailey and Miller in their teratogenesis of teratomata, who state that "there is nothing to show that all three theories may not contribute to the various kinds of duplicities, including certain teratomata of the sexual glands."

As parthenogenesis has never been proved in the human family, Black believes that the blastomere theory is more comprehensible and adheres closer to Nature's fundamental principles. If physiologists are correct, it is essential for the dynamic center (Biveri) or centrosome of the spermatozoon to come in contact with the ovum for fertilization to take place in the human. If this fertilization is devoid of certain embryologic and physical qualities, by cleavage, then, embryomata are the result.

There are no pathognomonic symptoms which aid in the diagnosis of solid teratomata. Precocious sexual and somatic development has been reported by Harris, Askanazy and others. Dermoids may be recognized by the x-ray (as reported by Anderson, Case, and Campbell). The solid type cannot be differentiated pre-operatively from other solid tumors of the ovary. Ascites is usually present. They occur more frequently in the young adult. Like all solid tumors of the ovary their pedicles may become twisted. They are usually unilateral and often attended with pelvic pain. They grow rather rapidly. Frank gives the average age as twenty. Harris has reported twenty-one cases under fourteen years of age, three and three-fourths years being the youngest he observed.

The prognosis is grave. Frank reports twenty-seven cases with a mortality of 88.8 per cent. Geist gives a mortality of 85 per cent. Williamson reports sixteen cases with twelve deaths in less than a year, and two more in less than three years after operation, and the other two had not passed the year. Pfannenstiel reports four cases out of thirty-two well after five years. Frank reports one case out of thirty-seven cases alive after eight and a half years. Williamson reports one well after six years. Harris reports one case well after thirty months of a carcinomatous teratoma (uterus and appendages of other side not removed. Neuhauser estimates the cures at 27 per cent. One of his cases is well after three years. One is in good health after fourteen months.

All solid teratomata should be considered intrinsically malignant and removed intact. No ovarian tumor should be punctured, for fear of infection and metastasis. Other organs, especially the opposite ovary, should be carefully inspected. In the young, and if the tumor is intact and there are no signs of metastasis, conservative surgery is sufficient. If the tumor is thought to be malignant, or there is evidence of metastasis, then a complete removal should be performed.

Frankel believes that with a primary cancer of the ovary, if the ovarian capsule is intact, there need be no fear of an implantation tumor. He says, "The uterus in such cases need not be

removed." He is said to be joined in this opinion by Leroy Broun, Taylor, Williams, and Chipman. Radical surgery is advocated by Frank, Graves, Anspach, Strong, Lynch and others. Hartmann advises removal of the healthy ovary in those past the child-bearing age, but conserves the healthy ovary in the young. Whether a conservative or a radical operation is to be performed depends upon the judgment of the operator plus the experience of others. (*Am. J. Obst. and Gyn.*, Sept., 1925.)

The Operative Treatment of Sterility in Women

Much as has been written on this subject in recent times Von Steinbudiell is in agreement with Graff that the operative treatment of sterility has altered very little during the last 30 years. The operation now undertaken can be classified into:

1. Methods for widening the vagina.
2. Operations for rectifying misplacement.
3. Plastic operations on the tubes.

It is the last group which the author deals with most fully, having had many successes even in prolonged cases of sterility. He considers that Rubin's method of diagnosis of the patency of the tubes is not devoid of danger as the stream of air may easily be infected by passing through an infected uterus or tube and so set up pelvic peritonitis. He thinks there is less risk in doing an exploratory laparotomy and any obstruction can then be seen and treated. He also comments on the fact that sterility may be due to appendicitis and it was while operating for appendicitis that he did salpingostomy in many cases. In his other cases the abdomen was opened for fixed retro-versions, lutein cysts and pyosalpinx but not for salpingitis. The operation consists in slitting up the closed fimbriated extremity and placing the greater part of the surface of the ovary in the widened tube and the uterine end of the tube is stitched by bringing the peritoneum to the mucous membrane. This method of treatment enables every ovum discharged from the surface of the ovary to pass into the tube and the further success depends upon the permeability of the uterine end of the tube for spermatozoa. This may be demonstrated by air inflation when the abdomen is open. If any obstruction is present the tube can be widened at that part. This does not cause increased risk. The author concludes by stating that these plastic operations are usually performed during uparotomy for some other cause but he does not agree with Graff that laparotomy should not be done for sterility without first proving the impermeability of the tubes and he recommends an exploratory laparotomy for sterility in any woman who ardently desires for an offspring, the inflation being carried out if necessary when the abdomen is open.—(*Ind. Med. Rec.*, Mar., 1925.)

Female Circumcision

The abominable practice of female circumcision amongst the Kikuyu varies in different parts of the country; thus in the Kyabmu district it principally consists of the excision of the clitoris, but in Nyeri district it is a much severe operation, consisting of the cutting off the whole vulva (labia majora and minora), and of the gouging out of as much of the vaginal mucous membrane as the operator can get hold of. The result on healing, in many cases, is the practical obliteration of the vaginal orifice. Many such cases that come to us for subsequent treatment after marriage have only an opening so small as to admit a thick probe, which serves as an entrance to both vagina and urethra. The reason given by the natives for this diabolical custom, with all its attendant suffering, is that elder generation of Kikuyu women held that without it no Kikuyu girl can expect to become pregnant.

My own opinion of its origin, which I give for what it is worth, is that it came to the tribe, in past ages, among those Semitic and other which came from the north; and as an imitation of the rite as practiced amongst certain tribes of the Sudan. In their case, when a man wishes to marry, he selects a young girl, and after negotiations with her parents she is taken by the old women, who stitch up her vulva; the intended husband then goes away and remains at work for some years. When he returns finally to marry and settle down, the old women re-open the girl.

Our routine practice here now is to make two lateral incisions in this in all first labors, whether attended by native or European nurses or myself. Since we have adopted this as a routine, the percentage of trouble that we have in resuscitating the infants has become negligible. In cases among women of artificial atresia the practice is for the native old women to undertake the operation, but an increasing number of young women now come to hospital for this operation, thus being saved from the inevitable sepsis that follows interference by the old women.—(*Kenya Med. Jour.*)

The Medical Times

A MONTHLY JOURNAL
OF

Medicine, Surgery and the Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

H. SHERIDAN BAKETEL, A.M., M.D., F.A.C.P.

ARTHUR C. JACOBSON, M.D.

Associate Editor

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES

(STRICTLY IN ADVANCE)

UNITED STATES (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands) \$2.00 per year

CANADA \$2.25 per year

FOREIGN COUNTRIES IN POSTAL UNION \$2.50 per year

SINGLE COPIES, 25 CENTS

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded.

Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for subscriptions will not be acknowledged, but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.

ROMAINE PIERSON, President

H. SHERIDAN BAKETEL, Treasurer

GEORGE B. CREVELING, Secretary

95 Nassau Street

New York

NEW YORK, MARCH, 1926

Prenatal Care and the Crime Wave

Our chickens come home to roost. The ubiquitous bandit is oftentimes a boy for whose mother's death society is responsible.

The importance of prenatal care as a preventive of juvenile delinquency and dependency, and to some extent of defectiveness, does not seem to be generally realized. In fact, the writer has not seen the relationship of these things pointed out by anyone.

It is true that orphanage has been frequently cited as a great factor behind delinquency, dependency and defectiveness, but why is an orphan?

In a considerable percentage of cases orphans are the children of women who have died in childbirth because they have not been properly supervised before confinement.

The mortality of unsupervised pregnancy is, of course, much higher than is the case with women who receive good prenatal care.

Ten years ago the mortality of eclampsia ranged from 20 to 30 per cent. To-day, where an institution practicing prenatal care loses one case in ten from this condition, it formerly lost one in four. And, of course, the incidence of eclampsia under good prenatal care is small as compared to former days.

How long does a home hold together without the mother? How long does it function well as a home with the mother disabled by the accidents or pathology of childbirth?

A considerable number of good statistical sources are given by Dr. Thomas Travis in his "The Young Male-factor," published by Thomas Y. Crowell and Company, New York, which should throw much light on this sub-

ject, though it is obvious enough that the further extension of prenatal care, by saving the lives of mothers, would go far toward lessening juvenile crime and dependency.

A Clinic

It has been said that one of the best tonics in the world is a new suit of clothes, but this is a matter wholly of psychology. The tonic most needed by some people is a new bed, which is a matter of physiologic mechanics.

What we mean is that the backaches, fatigues and cervical pains of some patients are frequently due to sleeping in decrepit beds, with crazy springs, or sprung slats, or "clumped" mattress filling. Some of these beds sink like hammocks under the weight of an individual, and when two persons sleep in such a bed one of them—the lighter in weight—lies upon an inclined plane.

It is the muscular strain and sacro-iliac stress that produce the ill effects.

The bed is seldom taken into consideration as a factor in the causation of general fatigue and particular pains and aches.

Our word clinic comes from the Greek *kline*, a bed. Yet the bed itself is taken into but little clinical account. A bedside examination should include an inspection of the bed, whose condition may figure definitely in the outcome of a serious illness. In ambulant patients suffering from symptoms such as we have mentioned the bed should again not be overlooked.

Hard Versus Soft Beverages

Doubtlessly many of us are under the impression that Prohibition has indirectly increased the consumption of tea and coffee. This, however, appears not to be the case. Coffee consumption stands at about the same point as it did before Prohibition, while the use of tea has actually declined. We are speaking of per capita consumption.

The foreign governments interested in the sale of these products, and parties in this country who are engaged in the business of marketing them, are showing considerable concern and taking steps to stimulate consumption.

All of which simply means that hard drink is easy to obtain and is being imbibed in large amounts.

Piffle

We had almost said bunk.

What we have in mind is the tommyrot that one frequently hears talked about euthanasia and the doing away with monstrosities.

As to the monstrosities, those concerning whom such a great fuss is made in the lay press are always of the type doomed to early death. It is never necessary that anyone should dramatically demand that they be done for, and it is always silly when someone melodramatically announces that he is going to do for them.

As to euthanasia, the means that we employ to palliate the symptoms in a necessarily fatal case invariably prolong life. The effect of morphin, for example, in doomed cardiac cases, is to prolong life far beyond the "logical" limit. We never have to assume the godlike job of putting an end to the lives of incurable and suffering patients, since we can make them comfortable and at the same time prolong their lives.

Bunk is the better word.

Hospital Practice for All

It is agreed to-day on all sides that hospital practice is essential in the scheme of medical education; that is, as regards the practitioner. Consequently, the exclusion

of the great body of the profession from such a privilege, in some form, gives the lie to our sincerity in the sphere of education.

Provision for post-graduate courses, as now made in certain well-meaning localities, meets the requirements very inadequately. We are speaking of the work now being done by some county societies as well as by the regular post-graduate schools.

Every reputable practitioner must become identified in some way with the hospitals of a community. Just as every physician in Denmark is a government health officer, so every physician in America must become attached in some capacity to a hospital.

Let him at least be an "unofficial observer," like the statesmen whom we send to Geneva to study the workings of the League of Nations. That he should not be able to see what is being done to his own patients after they enter a hospital is worthy of a barbarism, not of a civilization.

Every lawyer is an officer of the court. Whenever a lawyer abuses his privilege some form of discipline is easily applied, and the forms are practically standardized. Despite the enormous volume of our courts' proceedings the privilege is rarely abused.

Present conditions represent a medieval anachronism, and reveal a cynical, where it is not stupid, spirit in quarters supposedly devoted to the cause of medical education.

What transcends in importance the education of the practitioner?

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Sane Counsel

The article by Dr. Henry A. Christian in a recent issue of *Science* calls attention to the advantages and likewise the dangers to be considered in the development of highly endowed and equipped medical schools. The author points out clearly that high entrance requirements or extreme limitation of enrolments, while they may result in the securing of a few highly skilled and efficient graduates, may at the same time eliminate many brilliant minds. There are doubtless many students who, under the special advantages furnished, would bring great credit to themselves and to the institution, even though their preliminary education may be only average and who, for that reason, would hardly be admitted under higher entrance requirements or where classes are limited to smaller numbers. Such students who, under exceptional hardships, have been enabled to secure the average preliminary training, but who through that very process have developed tenacity, perseverance, efficient methods, unusually good judgment and other high personal characteristics, should be given every encouragement. The author suggests the possibility, therefore, that a large student body would be more advisable but with special provision whereby those especially gifted could be discovered. "There is much to indicate," he said, "that the small school has not quite measured up to its expectations." The holding of admission requirements more to the average, rather than to the extreme, and the admission of reasonably large classes will not only open the way for the brilliant minds who otherwise would be excluded,

but also enable the institutions to utilize their larger resources in the way of endowment, equipment and teaching facilities for larger numbers of highly qualified practitioners. Under careful methods, these larger classes cannot fail also to include larger numbers of exceptionally efficient graduates.—From Current Comment, in *J. A. M. A.*, Jan. 9, 1926.

Pernicious Anemia

(Concluded from page 53)

Summary of Early Diagnosis

The following symptoms and signs or a combination of them are important.

1. Gastro-intestinal system; indigestion, glossitis, and achlorhydria.
2. Nervous system: loss of vibratory sensibility, parasthesias, numbness and tingling of extremities.
3. Blood changes; high volume index, indicating larger amount of hemoglobin in each cell. An absence of free HCL and a plus volume index or color index is constant in pernicious anemia.

It seems advisable then, if a patient shows any of these premonitory symptoms to recall the possibility of pernicious anemia and begin rational treatment.

719 South Catalina Street.

*From Department of Internal Medicine, Los Angeles County Hospital, Service of John W. Shuman, M.D.

†Addison: "Idiopathic anemia: on the constitutional and local effects of disease of the Suprarenal Capsules" Mono. Lon. 1855.

§Seydewitz, R.: "Die pathogenese der perniziösen anemia," Mono, Berlin 1922.

¶Banting, C. H.: Bulletin John Hopkins Hosp. Vol. 26-222, 1905.

‡Shuman, John W. "Pernicious Anemia," Journal of Lab. & Clin. Med. Vol. 15, p. 26.

Corneil, B. S. "Pernicious Anemia," Canad. Med. Jour., Vol. 15, p. 26, January, 1925.

Corneil, B. S. "Pernicious Anemia," Canad. Med. Jour., Vol. 15, p. 26, January, 1925.

Hurst, A. F. Arch d mal d'app digestif, Vol. 13, p. 747, 1923.

Schlapka, T.: "Early Diagnosis of Pernicious Anemia," A. M. Journ. of Clinical Medicine, November, 1922.

Woltman.

Capps, J. A.: Journ. Med. Res. Vol. 5, p. 367, 1904.

Haden, R. I.: "Diagnosis of Pernicious Anemia," Jour. Mo. Med. Ass'n, 20-158, May, 1923.

Nasality

(Concluded from page 54)

patient to acquire satisfactory command of these actions. Electricity as a moral support is wonderful. N, M, NG, should be eliminated from the exercises, except when used in conjunction with the consonants, K and G; as k-mick, k-nife, ging, hing, ku, key, kick, kube, dru.

In some instances, patients recover their normal speech in a few lesson drills, but as a rule it takes from three to four weeks.

In conclusion the writer hopes the medical profession will realize that the ability to speak effectively depends upon the proper functioning of the soft palate; therefore, the operator should avoid injuring the soft palate and surrounding tissue. Many neglected nasal cases in children which follow as the result of an imperfect tonsil and adenoid operation, cause the unfortunates to become the butt of their playmates, with the result that their confidence is shattered and they become lispsers, stutterers and stammerers.

113 West 57th Street (Steinway Hall).

Stopping of the Nose

A little ointment composed of 1 to 3 grains of menthol and 2 to 8 minims of oil of eucalyptus to the ounce of vaseline, applied to the interior of the nose at bed-time, is often a very considerable help in discharge.—(Somerville Hastings, F. R. C. S., London.)

Abdominal and Psychic Manifestations

(Concluded from page 57)

awakening him at night, and in addition to the area before described, the greater suffering was located behind the stomach. There was no relationship between food intake as in gastric and duodenal ulcer or functional hyperchlorhydria. Two hours sleep at night were about the maximum. Former treatment was of no avail.

Extract from X-ray report: "In small intestine marked persistent deformity of the first and second parts of duodenum. Very marked localized tenderness elicited by digital examination under the guide of the fluoroscopic screen in the region of the duodenal defect. In the large intestine marked cecal stasis. Very marked tenderness just outside of the median aspect of the hepatic flexure. Barium enema; no evidence of obstruction to the inflow of the contrast mixture. Normal outline of the colon. Normal evacuation of the enema fluid."

The patients' psychical depressions increased. He lost initiative and confidence in himself. His now ever visible, never vocal Leitmotiv was death, an unqualified melancholiac. This alone might explain his lack of amenability to treatment as on all former occasions. They were not the recurring depressions incidental to asthenia, but suggested something new, associated with the retro-ventricular pain, presumably the pancreas as the seat, malignancy the cause.

Then followed conferences with a gastro-enterologist whom I induced to study the patient's highly neurotic wife. He felt no justification in adding to the diagnosis "marked asthenia" due to various physical defects, cardiac, pulmonary and renal together with the wife's reflex on himself.

The therapeutic suggestions were all without the slightest avail. I requested the specialist to study the patient at the hospital away from his surroundings and uninfluenced by me, which he did, but his convictions of marked asthenia due to the past were only intensified.

I then issued a few statements that suicide was pending unless committed. An institution would justifiably require an exclusion of surgical indications. The divergence of opinion made this impossible. Then a number of ardent debating contests, my friend finally suggesting consultation elsewhere with a possibility of agreement, to which I replied "I welcome divergence, not agreement. Divergence gives some ground for hope, agreement means two day and two night nurses, morphin and libitum et ad finem. Divergence makes surgery obligatory and cancer if found might even be operable. I shall send the patient back to the hospital under proper guard, confer with a surgeon, insist upon you joining in the conference, you, not I, to be the spokesman."

At the hospital the superintendent called me up in great perturbation after an attempt at suicide had been frustrated by the merest chance. To my great relief at the conference my friend urged the surgeon to perform a probatory laparotomy.

Dec. 29th, 1923, operation: Diseased gall bladder, largely adherent to hepatic flexure of colon, removed. Further investigation contra-indicated.

Jan. 1st, 1924: Exitus letalis, clinical diagnosis, pneumonia. Let the following extract of an unusually instructive autopsy, including a totally unsuspected moderate sized purulent pericardial exudate suffice: The body of the pancreas presents a very firm, ill defined mass 4 cm x 4 cm x 3 cm. This was his Requiem Mass.

According to the law of probabilities, my friend's conception might easily have been correct. Why add to the

many diagnoses? But I had one advantage, I knew my man, physical and mental. I knew his consistent response to illness in the past, his personality, an invaluable factor in the determination of symptoms. The general observer may have many advantages obtained frequently under great duress and stress, albeit only the product of a low magnifying objective. This he offers the specialist in lieu of that of his oil immersion lense. The high degree of asthenia due to the many physical defects plus surroundings was apparent, but within the larger circle of the lower magnifying objective, chronic cholecystitis was discernible, nor was the vision of cancer-illusory in the mist of melancholia.

Proctitis and Proctocolitis

(Concluded from page 59)

on the rectal wall, and these must be treated locally. The patient is placed in the knee-chest position (which secures atmospheric dilatation) then a speculum is introduced and the entire rectum inspected. Any ulcer present is wiped free of mucus and debris and painted with pure inchthylol or a 5 percent silver nitrate solution.

If a number of ulcers or grayish spots are seen a rectal spray over the whole surface will be found very efficacious.

In those cases where there is profuse discharge of mucus and in which the sigmoid and lower colon seem to be involved irrigations with 2 percent solution of alum act nicely.

The Diet in Acute Proctitis

The diet should be carefully arranged so as to be absorbable and nonirritating and of such a variety as will insure soft or semisolid evacuations. A largely absorbable dietary is advisable also, in order that the bowels may move less frequently, thus diminishing the deleterious peristaltic movements. Milk should be excluded because it occasions hard, irritating curds in the feces. Fibrous vegetables such as cabbage, kraut, celery and green corn are also forbidden, for, they irritate the bowel. In their stead gruels, of oatmeal, rice and barley, egg albumen, gelatin, meat broths, and the proprietary prepared foods and peptones should be ordered. Water should be drunk freely, six to eight glasses daily.

If there is any doubt of the purity of the water it should be boiled and then to overcome the flat taste it may be aerated by whipping it with a revolving egg beater.

As the inflammation subsides constipation is apt to occur and a full glass of flaxseed tea at night will be found to act as a mild laxative and at the same time is soothing to the intestine.

Flaxseed Tea Recipe

Take five tablespoonfuls of whole, unbruised flaxseed, pour over it a quart of boiling water and boil for ten minutes, strain through muslin while hot, flavor to suit by adding, before cooking, one teaspoonful of pulverized liquorice, or one lemon, or ten drops of oil of peppermint or wintergreen, and two tablespoonfuls of sugar, or after cooling add a wine glass of wine. Make the tea fresh each day.

The patient should be kept in bed until all pus and blood has disappeared from the stools, because, when he is up and about the pendent position of the blood vessels, together with the thinness of their walls and the associated congestion and inflammation, give rise to venous stasis, which seriously impedes or even prevents regenerative changes.

The Prognosis of Acute Proctitis

Proctitis in either acute or chronic form is always a serious matter, deserving of the physician's most careful attention, because the inflammation itself may debilitate and especially because complications that may invalid the patient are prone to occur.

Each case is a law unto itself. Under rest and treatment, the symptoms subside and the patient recovers in a week or ten days, but if not properly managed, the condition may become chronic. If the mucous membrane alone is involved, a complete recovery results, even though ulceration has occurred; however, there always is danger of perirectal abscess, fistula or stricture of the rectum. Sometimes lymphangitis or phlebitis may protract convalescence.

Complaints Against the Dispensary

(Concluded from page 60)

The patient has several complaints to make concerning the physician and the dispensary. There are medical men who use the dispensary as a medium for obtaining private patients, openly suggesting to the patients that they come to their offices for treatment. Often the ordinary case, holding little interest for the physician, is passed over rapidly. The chief of the clinic seldom spends any time in examining patients. All this makes for dissatisfaction among the patients.

In prescribing medicine in the dispensary, only a certain number of drugs or a certain number of formulae may be used. These can seldom be varied and are often prescribed by number. The pharmacist, dispensing a large number of prescriptions in a very limited time, becomes careless in measuring the dosage and in compounding mixtures. Owing to the upkeep cost of the drug room, there is often a tendency to save by buying cheap drugs. The amount of medicine supplied is so small that it necessitates frequent visits to the dispensary for renewal.

Frequent visits to the dispensary are inconvenient for the patient who works. A long wait is necessary before the patient is reached either for re-examination or for renewal of medicine. Any show of impatience on the part of the patient, who, perhaps, wishes to return quickly to work, meets with a decided rebuff from the nurse or medical attendant.

Many people consider that citizenship carries with it a right to dispensary treatment. The fact that they are paying taxes to the city should, in their opinion, carry with it the right to free treatment, as the city helps support the dispensaries. Others have been trained in the use of the dispensary by the family physician, who sends his patient there for consultation on some special condition.

Although the dispensary patient does not pay for the services of the doctor, he pays for admission and he pays for medicine. Many dispensaries are self-supporting from the money collected from these sources. A routine charge of fifteen cents for admission and of ten cents for each medicine dispensed may be levied, even though that medicine costs but a fraction of a cent, as in the case of calomel. An extra charge is made for a bottle in which to dispense a liquid medicine. Notwithstanding these charges, we usually associate the term "free" with the dispensary.

Many colleges have dispensary connections for teaching purposes. Patients are anxiously sought to supply clinical material for the students. The students examine and study these cases, and sensitive patients are either forced to submit or are refused treatment. Physicians

enter dispensaries in order to perfect themselves in certain lines of work. By serving as clinical material, the patient feels that he makes at least partial payment for the services received, and covers any deficiency in payment for admission and for medicine.

From the viewpoint of the community, any means for raising the general health is good. No great harm is done by the use of the dispensary by people able to pay. These people might not otherwise secure medical treatment, and the general health of the community suffer. In the opinion of the community there is great good to many and a little harm to a few.

The removal of dispensary abuse and an improvement in medical treatment is necessary. The physician should not be exploited and the patient should receive better care. If no patient able to pay were admitted, there would be more time for the treatment of the deserving poor. The number of patients one doctor is able to treat satisfactorily does not exceed fifteen per hour and is usually fewer.

A closer watch should be kept on the patients applying for admission to the dispensary. An effort should be made to see in their homes all cases suspected of being able to pay for treatment. An impression should be obtained of their general circumstances and the sanitary conditions in which they live. Information should be secured regarding their occupations and incomes.

The charge for admission should be discontinued, medicine should be given free, and a sufficient number of medical men should be on service to insure adequate and prompt service to the patient.

A very important feature of the dispensary is the social service staff for investigating cases as to their ability to pay for treatment, to see that treatment is carried out, and to see that return visits are made. In addition, this staff should concern itself with improving the economic condition of the dispensary patient. Any movement for the removal of dispensary abuse and for the improvement of medical treatment to the poor must look to such a staff for assistance.

1501 Union Street.

Correspondence

The Layman and the Physician

To the Editor of THE MEDICAL TIMES:

As a contributing editor to the TIMES I am puzzled by a reprint recently presented to me, entitled *Non-Medical Contributions To Medical Science* (*Medical Times*, December, 1925). It is, in effect, an encomium on O. Boto Schellberg. Some of the greatest names in the history of science are briefly grouped in the first two thirds of this article, while the remaining third treats of a votary at the shrine of enteroclysis, and of apotheosized enteroclysis in its finer moods and tenses. A retiring role is thrust upon Mendel, Priestly, Roentgen and others. The elaboration of some of the laws of heredity the isolation of oxygen, and the discovery of the x-ray furnish a background for the display of a catheter capable of penetrating to the caecum. The Darwinian hypothesis takes a place back stage to give prominence to the cosmic function of the taenia coli muscles.

I did not see the article when it appeared, so I do not know whether it is an editorial or whether it is autobiographic. It states that no medical man in this country would consent to having "his name bracketed with that of a layman." My own belief is that this would entirely depend upon the layman's accomplishments. I cannot conceive of a physician anywhere in the world who would object to having his name linked with any of those mentioned in the introductory part of the article. Perhaps there might be less rejoicing in such a bond with Schellberg. I do not know. His name has hitherto been unfamiliar to me. I willingly assume this to be a fault of mine, but I have no doubt that if his merits compare with those of the men with whom he is placed on implied equality, that he too would be regarded as a welcome coworker in medicine. It resolves itself into

whether what he has done has the value of the labors of the others. I do not presume to express an opinion on this matter.

But I feel warranted in the opinion that the stricture regarding the narrowness of Americans, in such relationships, is unjust. It does not reflect the letter or spirit of fact. Stieglitz of the University of Chicago, Benedict of Cornell, Falk of the Harri-man Laboratory, Flexner of the Rockefeller Foundation, Miller, dean of the Long Island College Hospital, Raiziss of the Research Laboratory of Philadelphia, and several other men filling important posts in hospitals here and elsewhere, are not medical men. If there has been any adverse criticism by physicians of these men, or of their incumbencies, I have not heard of it. Nor, so far as I know, has any physician refused to be associated with them in work, the literature or otherwise. Medicine as a science and an art draws upon all other sciences for sustenance, and honors and recognizes all who work for the advancement of health.

The degree of doctor of medicine is, in itself, unimportant. Non-medical scientists are indeed denied the right to practice. But this is for reasons of public welfare that protect not only the patient but the practitioner and no reflection on the individual. I imagine that few non-medical scientists would care to practice, and that they themselves would be the first to recognize their unfitness to, being scientists and hence alive to their own limitations. It is only the untrained who are likely to lose their perspective and regard a claim they have staked as a world they have conquered.

At the beginning of medical history there could have been no physicians except self-designated ones. Nor is more than this required in a simple commonwealth. With the increasing complexity of the growing state, definite standards have had to be applied to determine the fitness of experts, with reference to public welfare, in many lines of activity. Arbitrary rules, crystallized from experience, were made to govern the licensing of such experts. The wisdom of this is undebatable, no less as to physicians than as to locomotive engineers or chauffeurs. Except by orderly control how can the state fulfill its function of guarding its citizens against the unqualified? The qualifications are not difficult to acquire. It is a matter of time and study, and if there is any injustice in exacting time and study as an earnest of fitness for medical practice I fail to see it.

The imputation in the article in the TIMES is that physicians have reluctantly and grudgingly had to recognize lay investigators, even such men as Barnard. No such thing is the case. These men could not be ignored. Their work was vital and has been joyously acclaimed. Nor am I conscious of any expressed self laudation on their parts; nor of anything written about them by others in the spirit of the invidious comparison. Nor does one get the impression that they have thought of their work in negotiable terms. Physicians may be ludicrous in shrinking from the accepted procedure of a commercial world in advancing their material welfare, but it remains a fact that names like Osler, Welsh, Janeway, Billroth and hundreds more, as luminous, have never been remotely associated with chicanery, while those of others, with perhaps more of a flare for things practical, have left nothing but an estate. I wonder whether Claude Bernard ever thought of his studies on glycogen in terms of the sugar crop in the Southern States.

As a contributing editor to the TIMES I should like to know what the object of the article on Schellberg is? Is it to indicate that he belongs to the elect with Celsus, Darwin, Curie, Roentgen, Pasteur or Barnard? If so, why? I should like to join in the applause if good reasons were demonstrated. It is really to show the American physicians regard their lay co-workers with contracted supercilious muscles? If so the article is inappropos because it diverges from fact. Is it sincerely to present to the medical public an ignored but worthy therapeutic method? If so there are accepted and acceptable ways of publication. Have these been followed, and where can information about this be obtained? If Schellberg's methods have been duly reported according to our usage have they been received with opprobrium? If so who are the offenders? These are questions that in common justice to Schellberg require an answer, for disregard of sincere study is unjustifiable, whether directed toward physician or layman. As a contributing editor to the TIMES I request space for this letter in your columns, for I believe that my point of view will reflect that of most of my colleagues. If I err in this belief and there should be dissent from my attitude, I should welcome having the flaws in my position indicated.

WALTER J. HIGHMAN, M.D.

780 Madison Ave., New York.

NOTE.—The special article to which our distinguished confrere refers, was prepared by a physician very familiar with the splendid practical work of Mr. Schellberg. The doctor realized that while Schellberg, who has devoted the major part of a very active life to colonic therapy, and is the author of a book

of undoubted value, is making strenuous efforts to keep this form of treatment, where it belongs, within the dominion of medicine and out of the hands of cultists and charlatans, he is receiving scant attention from hundreds in the local profession. Many physicians seem to be reluctant to admit that real colonic therapy is as different from the so-called high enema as black is from white, but the fact remains.

Actual colonic therapy was terra incognita until Schellberg, a layman, to whom a medical education was denied by poverty, perfected it. Some of the important discoveries he has made in connection therewith stamp him as a research worker of repute. His book is a noteworthy contribution to medical science.

Mr. Schellberg has been compelled to fight for every inch of ground which has been won for a profession of which he is not a member.

We trust Dr. Highman will investigate the work being done by Mr. Schellberg and his staff of workers and though he may go there to scoff, we believe he may remain to pray.

THE EDITORS.

Public Health

The Prevention of Drug Addiction

The United States Public Health Service has issued a pamphlet by Kolb and DuMez dealing with this subject in a very thorough manner. It has been known for a long time that many of the estimates made as to the number of drug addicts throughout the country, and particularly in large cities, are erroneous, a far greater number of addicts being supposed to exist than is actually the fact.

Kolb and DuMez estimate that in 1924 there were perhaps 150,000 addicts of morphine, cocaine, or heroin in the United States, but they further express the belief that the correct figures should be about 110,000, which we think is not a very large number when we consider that the population of the country is well over 100,000,000.

The legislation which has been passed to limit the ability of addicts to obtain these drugs has, heretofore, been passed for the benefit of a relatively small number of degenerates and has caused an immense amount of suffering amongst many thousands of worthy people who, not being cursed with an impaired morale as a result of inheritance, are deserving of consideration when such laws go into effect.

As we have pointed out on other occasions during the last twenty years, movements in and out of Congress in regard to alcohol and sedative drugs have all been based upon what was thought to be for the benefit of the degenerate with no consideration whatever of those who are deserving.

We are glad to note in this Report that physicians are no longer credited with being responsible for the creation of addicts to any considerable extent through the careless use of drugs.

Some method of preventing loose traffic in drugs prone to produce addiction is undoubtedly wise, but those who administer laws already in existence, or laws which may be passed in the future, should be controlled not only by consideration for the delinquent, but give an equally well-balanced consideration to those who, as the result of disease or injury, should be relieved of their suffering without undue interference. Much of the legislation which has been passed has resulted from the intense activities of a small group of what may be called "uplifters," the medical profession on the one hand being not adequately represented or ignorant of proposed laws, while the people in general have no interest in drugs until trouble comes home to them, with the result that badly balanced legislation is enacted or administered.—(Ther. Gaz., Sept., 1925.)

Inoculation Against Measles

Dr. Arturo Atria, of Santiago de Chile, has written a book advocating the universal adoption of the practice of inoculation against measles. As physician-in-chief of the Section of Bacteriology at Santiago and a late student of the Pasteur Institute he speaks with a certain authority, and he invokes the support of tradition by giving considerable space to enthusiastic eulogy of Home, a Scottish physician of the eighteenth century, who first experimented with inoculation about 1740 on a small scale. Home was certainly an able man much in advance of his age, but the number of his cases was far too small to admit of any deduction being made from the results, and his work is only of historical interest. Nor does the amount of work done since on the same lines come anywhere near to justifying the sweeping conclusions arrived at by Dr. Atria. His attitude may be judged of from the fact that he speaks of 1150 cases as being a colossal number, whereas to arrive at any definite judgment we should need thousands of cases, carefully observed during a

period of years. No evidence is offered as to how long the effects of inoculation last in conferring immunity, nor does the author seem to weigh the very varying degrees of liability in communities and individuals in considering such statistics as he has got. Dr. Atria advocates wholesale case-to-case inoculation with the blood of individuals at a certain stage in the disease, but he does not face adequately the difficulties and dangers of the course that he proposes. Two obvious ones may be mentioned: (1) As the virus cannot be stored, large numbers of cases would be required from which to inoculate, and there would be a constant risk of imparting some other disease, such as syphilis or tubercle. (2) As the constitutional reaction in effective cases is presumably more severe than in ordinary vaccination, very large provision would have to be made for nursing and medical attention if the results are not to be disastrous. It is a pity that so much time and energy have been expended in advocating what in the present state of our knowledge can only be characterized as wholly premature. The bibliography, which has neither chronological nor alphabetical order, shows that a very large number of works has been consulted, but all that is of value in the book might well be compressed into one-tenth of the space occupied.—(*Lancet*, Sept., 5, 1925.)

Pathological Investigation in Scottish Mental Hospitals

In Scotland the effort to centralise and develop the study of mental pathology is continuing. The Board of the Scottish Asylums Pathological Scheme report that Dr. F. E. Reynolds has been appointed superintendent of the laboratory with recognition as lecturer in neuropathology to Edinburgh University—a most valuable combination of posts. Dr. Reynolds visits the contributing asylums periodically to advise and encourage the work carried on by individual medical officers, and is himself conducting researches into the paths of infection of the leptomeninges. The laboratory undertakes such routine work as may be desired by the 21 hospitals supporting the scheme, and supplies them with printed forms for description of specimens and circulars explaining the best methods of taking, despatching, and preserving material. A similar scheme is in force in the West of Scotland. It is reckoned that a contribution at the rate of six-tenths of a penny per patient from each of the seven bodies concerned in the scheme would make the financial basis sound.

Dr. W. Whitlaw, director of the research institute in Glasgow, reports a steady increase in the routine work done, from 450 specimens in 1921 to 2006 in 1924. Owing to epidemics of typhoid fever at Hawkhead and Greenock Asylums, a large proportion of these specimens were examination of excreta for *B. typhosus* or a blood for Widal reaction. The epidemic at Hawkhead seems to have been present since 1916, but has undergone exacerbation since 1921. Twelve carriers in all have been isolated, and Dr. Whitlaw is of opinion that typhoid will come to occupy the position that dysentery once held if drastic steps are not taken to deal with it. He urges the importance of early recognition and early isolation. Research has been undertaken on bloodsugar in anxiety states, on the calcium content of the blood in epilepsy, and on the cerebro-spinal fluid in general paralysis which is being treated by protein shock; but it is too early yet to formulate conclusions. A number of medical officers have been examining the relation of chronic infection, especially intestinal toxæmia, to certain mental disorders. Treatment by intestinal disinfectants has not yielded any useful results. Dr. J. Neilson, a McCunn scholar, is working on the histology of encephalitis lethargica. Certain post-mortem material is being investigated with special regard to the associative mechanism. and Dr. Whitlaw appeals for material from dementia præcox cases. It is clear that while valuable work is being done by these two Scottish schemes, there is still ample scope for extension and improvement.—(*Lancet*, Sept., 12, 1925.)

"No Diphtheria in 1930"

A live wire organization down in New York City has proposed an intensive anti-diphtheria campaign with the slogan "No Diphtheria in New York State in 1930." he idea is a challenge to the public in that state and in every other state in the Union.

Yes. Why not? The question of having diphtheria is one that every parent who so chooses may definitely answer in the negative in behalf of his children. The Schick test will tell the parent whether his child is susceptible to diphtheria and toxin-antitoxin will make the susceptible immune.

Just what would it mean to rid Illinois of diphtheria. How much could we afford to spend to that end? We turn to statistics for an answer.

Since 1920 diphtheria has killed 4998 children in Illinois. During the same period 67729 persons were sick of diphtheria in the state. Certainly the actual cost involved in a case of diphtheria is not less than \$100 when medical and nursing care, lost time on the part of the patient and other members of the

family and quarantine are considered. At \$100 per case the loss to the public during the five years was \$6,772,900 or an average of \$1,354,580 per year. The people of the state could well afford, therefore, to spend \$1,000,000 annually in fighting diphtheria because the result is certain if the present knowledge is generally and practically applied.

A yearly budget of \$1,000,000 would place an average of 2 trained workers in every county, pay their travel expenses, furnish them with ample literature sufficient for repeated distribution in every home and defray all necessary administrative costs. Two full-time, trained workers for each county would have the potential power of ridding the state of all but a vestige of diphtheria during five years of intensive service.

Less than 50 years ago yellow fever hung constantly like a pall over the southern states, occasionally invading southern Illinois, striking terror into the hearts and minds of the whole Mississippi valley population. There has not been a death from yellow fever in the United States for three years and very few in the world. Tuberculosis, a long drawn out disease that responds grudgingly to treatment and preventive measures, is but half as prevalent as it was only a few years ago. The means of preventing diphtheria are more direct, equally certain and more easily applicable than those relating to either of the other diseases named.

Diphtheria will stay to burden the people of Illinois only so long as they are willing to permit it. Here is a definite, clear-cut challenge to the public.—(*Illinois Health News*.)

Instructions for Sterilizing Water from Wells, Cisterns, or Springs

These were plans prepared by the Division of Sanitary Engineering of the Illinois Board of Health:

Water from a well, cistern, or spring which is suspected of being contaminated should be sterilized before it is used for drinking or culinary purposes. The easiest and surest method is to boil the water. It is not necessary to boil for any great length of time, but be sure that it comes to a distinct boil. The flat taste which results may be partially removed by pouring the water from one vessel into another several times, or by adding a pinch of salt.

Because it is not convenient to boil a large amount of water, it is sometimes more desirable to sterilize the entire well or other supply by the use of calcium hypochlorite, commonly known as chloride of lime, chlorinated lime, or bleaching powder. This chemical can be purchased at any local drug store in small sealed tins. Obtain a fresh supply if possible because the chemical deteriorates somewhat upon standing even though sealed. When the can is opened a decidedly pungent odor should be evident.

Add one ounce of chloride of lime for each 1000 gallons of water to be treated. If scales are not available the material can be measured with a spoon. A moderately heaping tablespoonful of chloride of lime (that is with the powder about one inch deep in the center of a spoon) weighs approximately one ounce. The amount of water present in a circular well or cistern can be determined from the following table:

| Diameter of well in feet.. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------------------------------|---|---|---|----|----|----|----|----|
| Gals. for each foot of water | 1 | 4 | 9 | 16 | 25 | 36 | 49 | 64 |

| | | | | | | | | |
|---------------|---|----|----|----|-----|-----|-----|-----|
| in well | 6 | 24 | 53 | 94 | 147 | 212 | 288 | 376 |
|---------------|---|----|----|----|-----|-----|-----|-----|

Rub up the dry powder with a small amount of water to make a thin paste, taking care to break up all lumps, and stir this paste into a bucketful of water. This had best be done out-of-doors to avoid the chlorine fumes which are evolved. Pour the contents of the bucket into the well and if possible agitate the water with a clean board to insure thorough mixing. Allow the water to stand for a period of several hours before using.

The above treatment corresponds to a dosage of 2 parts per million of available chlorine and should impart a slight taste to the water, but this taste is entirely harmless and only serves to indicate that sufficient chlorine has been added to adequately sterilize the water. In fact unless a pungent odor or taste is evident, repeat the treatment using one-half the dosage indicated. It must be borne in mind that such a procedure will sterilize only the water which is actually present in the well at the time of treatment. If the well is subject to seepage from the surface or from a source of pollution such as a privy vault or sewer, the treatment should be repeated as often as a quantity of water equal to the capacity of the well has been pumped out. Any process of sterilization is at best only a temporary measure, and immediate steps should be taken to reconstruct the well so that it will be protected against further contamination.

For sterilizing small quantities of water rub up a moderately heaping teaspoonful of chloride of lime with a small amount of water in the manner indicated above and add sufficient water